

From the Edinburgh Review.

Kosmos, Entwurf einer Physischen Weltheschreibung, VON ALEXANDER VON HUMBOLDT. Ersten Band, Stuttgart und Tübingen. J. G. Cotta'scher Verlag, 1845.

Cosmos. Sketch of a Physical Description of the Universe. By ALEXANDER VON HUMBOLDT, vol. i. Translated under the superintendence of Lt. Colonel EDWARD SABINE, R. A., For. Sec. R. S., London. Printed for Longman, Brown, Green, and Longman, Paternoster Row, and John Murray, Albemarle street, 1846.

KOSMOS, the adornment, the orderly arrangement, the ideal beauty, harmony, and grace, of the universe! Is there or is there not in the mind of man a conception answering to these magnificent, these magical words? Is their sound an empty clang, a hollow ringing in our ears, or does it stir up in the depths of our inward being a sentiment of something interwoven in our nature of which we cannot divest ourselves, and which thrills within us as in answer to a spell whispering more than words can interpret? Is this wondrous world of matter and of thought, of object and of subject, of blind force and of moral relation, a one indivisible and complete whole, or a mere fragmentary assemblage of parts, having to each other no inherent primordial relations? If the former, contradiction and ultimate discordance can have no place. All that is to us enigmatical *must* have its solution, however hidden for a while the word which resolves the riddle. All that shocks us as irreconcilable, *must* admit of satisfactory interpretation could we read the character of the writing with ease and fluency. If the latter, Chaos is a reality, Polytheism a truth; since arbitrary, self-existent, and independent powers *must*, on that view of the subject, agitate, without end and without hope of final prevalence, the field of being.

It is something to have put the question in this form, uncomplicated with the idea of responsibility for its answer to any tribunal but that of the pure reason and the inborn feeling. So put, we might well leave it to be decided by the acclamation of the human race, were it not for the healthful and invigorating exercise of our faculties, and the rich enjoyment it affords to pass before us in review those grand features in the constitution of the frame of nature which render the conclusion irresistible, and invest it with the character of a demonstrated truth rather than that of an admitted opinion.

It is true that to grasp, as by a single mental effort—to embody and realize to our conceptions the UNITY OF NATURE—to soar so high as to perceive its completeness, and enjoy the fulness of its harmony, is given neither to Man nor to Angel. The feebleness and limitation of our faculties repress such longings as presumptuous, and forbid

such flights as impracticable. Yet to spring a little way aloft—to carol for a while in bright and sunny regions—to open out around us, at all events, views commensurate with our extent of vision—to rise to the level of our strength, and, if we must sink again, to sink, not exhausted but exercised—not dulled in spirit but cheered in heart—such may be the contented and happy lot of him who can repose with equal confidence on the bosom of earth, though for a time obscured by mists, or rise above them into empyrean day.

To some it is given to soar with steadier wing and more sustained energy; to sweep over ampler circles and treasure up the impressions of more varied imagery. To such the ambitious but sublime idea may occur of attempting to throw off, in broad and burning outline, a picture of THE WHOLE as it has presented itself to their aspiring conceptions. Far be it from us to reprove such aspirations. Their failures may yet be immeasurably grander than our best successes; and, as we contemplate them, a glimpse, a shadow, may impress itself which may aid us to remodel our own conceptions according to a higher ideal than any we could have formed from our more limited opportunities. Such outlines, struck with a bold hand and true to nature, though confessedly imperfect and partial, suggest in their turn, to imaginative intellects, groupings and combinations of a more recondite and deep-seated order. Transplanted onward, thus, in progressive development from observer to observer, and from mind to mind, with a constant reference to nature and experience as their prototype, it is easy to see how, while gaining in comprehensiveness, they may lose at every transfusion somewhat of their specialty, without a corresponding loss of general truth; and how thus, a larger and more entire conception of nature in itself may by degrees arise, and come to be recognized as the common property of humanity, the permanent and ennobling inheritance of generation after generation to the end of time.

The difficulties to be encountered in such an attempt are of two opposite kinds; on the one hand that of embracing with distinctness and truth a sufficiently extensive view, on the other that of duly suppressing detail. Such a view of nature, to be in any way successful, ought to be, in the highest possible sense of the word, *picturesque*, nothing standing in relation to itself alone, but all to the general effect. In such a picture every object is suggestive. However beautiful in itself, it is less for the sake of its intrinsic beauty than for that of the associations it calls up, and the lights which it reflects from afar, that it holds a place as an element of the work. And, as in art, intense and elaborated beauty in any particular defeats

picturesqueness by binding down the thought to a sensible object, annulling association, and saturating, as it were, the whole being in its single perception; so, in throwing off such a picture of nature as the mind can take in at a view, no one portion can be suffered to appear in single completeness and ideal rotundity. Nature, indeed, offers all in her profusion, and complete in all its details; and the contemplative mind finds among them paths for all its wanderings, harmonies for all its moods. But such exuberance is neither attainable nor to be aimed at in a descriptive outline, where leading features only have to be seized, which imagination is stimulated to fill up by the grandeur of the forms, and the intelligible order of their grouping.

The origin and fount of all good writing, however, is sound and abundant knowledge. To the successful execution of such a work, a thoroughly scientific acquaintance with each component feature; a mind saturated with information, and at home in every department, is above all things requisite. The classifications of the naturalist, the surveys of the geologist, the catalogues and descriptions of the astronomer, the theories of the geometer, and the inductions of the experimentalist, must all be alike familiar, and not merely ready at a call, but present to the thought at every instant. It is, therefore, by no simply clever writer, by no mere man of vivid imagination and fluent command of language and imagery—least of all, by any ideal speculatist who may have devised a system of philosophy spun from the abstractions of his own brain, and resolving all things into some single principle, some formula embodying all possible knowledge, that such a work can be entered upon without the certainty of utter and disgraceful failure. The highest attainments in science, though necessarily inadequate to complete success in such an attempt, can alone save the adventurous mortal who shall make it from merited reproach on the score of presumption.

The author of the remarkable book before us is assuredly the person in all Europe best fitted to undertake and accomplish such a work. Science has produced no man of more rich and varied attainments, more versatile in genius, more indefatigable in application to all kinds of learning, more energetic in action, or more ardent in inquiry; and we may add, more entirely devoted to her cause in every period of a long life. At every epoch of that life, from a comparatively early age, he has been constantly before the public, realizing the ideal conception of a perfect traveller; a character which calls for almost as great a variety of excellencies as those which go to realize Cicero's idea of a perfect orator. To such an one science in all its branches must be familiar, since questions of science and its applications occur at every step, and often in their most delicate and recondite forms. The habit of close attention to passing facts, which seizes their specific features, and detects their hidden analogies, must join with the broad *coup d'œil* which generalizes all it sees, and stereotypes it in

memory in its simplest and most impressive forms. To these must be added a knowledge of man and of his history in all its phases, social and political; a ready insight into human character and feelings, and a quick apprehension of local and national peculiarities. Above all things is necessary a genial and kindly temperament, which excites no enmities, but on the contrary finds or makes friends everywhere; in presence of which hearts open, information is volunteered, and aid spontaneously offered. No man in the ranks of science is more distinguished for this last characteristic than Baron Von Humboldt. We believe that he has not an enemy. His justice, candor, and moderation, have preserved him intact in all the vexatious questions of priority and precedence which agitate and harass the scientific world; and have in consequence afforded him innumerable opportunities of promoting the objects and befriending the cultivators of science, which would never have fallen in the way of a less conciliatory disposition, and of which he has not been slow to avail himself. The respect of Europe, indeed, has gone along with him to a point which has almost rendered his recommendations rules. It has sufficed that Von Humboldt has pointed out lines of useful and available inquiry, to make every one eager to enter upon them.

The idea of a physical description of the universe, as a work to be accomplished, and an object, to amass materials for which during a whole lifetime, would be a worthy and satisfactory devotion of it, had, it appears, been present to his mind from a very early epoch. For almost half a century, indeed, it had occupied his thoughts. At length, in the evening of life, he felt himself rich enough in the accumulations of thought, travel, reading, and experimental research, to reduce into form and reality the undefined vision which had so long floated before him. Not entirely, however, without some preliminary trial of strength. A course of lectures, as he informs us, had been delivered by him, both in Berlin and Paris, on the subject, about the end of 1827, previous to his departure for Northern Asia, a journey for which he had prepared himself by a course of study without example in the history of travel. On his return, after giving to the world the results of that journey, or rather the epitome of all the knowledge acquired by himself and by former travellers on the physical geography of Northern and Central Asia, in a work which would alone have sufficed to form a reputation of the highest rank; he resolved no longer to defer this realization of his early aspirations, and the result has been the work of which the volume now before us is only a commencement.

Though we cannot blame an arrangement which brings any portion of the fruits of M. de Humboldt's labors earlier before us, though aware of the hazard which passing years entail on the ultimate appearance of a work of great extent deferred already so long; and though only too glad to receive by instalments, at the convenience of the author, the payment of a self-imposed debt of such

magnitude and value, yet we cannot but consider the publication of the three volumes, of which it is understood the whole will consist, separately and at long intervals, as in many respects unfortunate. Although it is now nearly four years since the work was completed, the second volume is only just on the eve of publication, and the third may possibly be yet longer delayed. Yet no work could have been undertaken, in which it would appear so needful that the impression produced be one and undivided, the unity salient and conspicuous. That the contrary course, though perhaps unavoidable, has been pursued, renders the task of duly appreciating and correctly criticising it doubly difficult; since it is impossible to say to what extent, and in what manner many things, which appear in the light of omissions in the first portions of such a performance, may be supplied in the sequel; or how differently the philosophy of the whole subject may come to be judged as presented by the author on a complete and on a partial view of his entire meaning. This would have been less the case, and the probability of doing injustice to the author's philosophical views greatly diminished, had the general plan of the whole work been chalked out with more precision in the introductory portion, and the nature of the contents of the subsequent volumes indicated in somewhat less vague and general terms than we find them actually to be. And the necessity for thus holding a reserve on our judgments in this respect, while considering that portion of the work which we possess, is the more imperatively pressed upon us, inasmuch as the scope of the proposed third volume, as we understand it, seems to us by far the most important in its philosophical bearings, and as that by which the character of the whole as a great philosophical work will of necessity come to be finally judged.

Such, however, we are aware, is not exactly M. de Humboldt's own impression. He must here be allowed to speak for himself: "The first volume," he says, "contains a general view of nature, from the remotest nebulae and revolving double stars, to the terrestrial phenomena of the geographical distribution of plants, of animals, and of races of men; preceded by some preliminary considerations on the different degrees of enjoyment offered by the study of nature and the knowledge of her laws; and on the limits and method of a scientific exposition of the physical description of the universe. I regard this as the most important and essential portion of my undertaking, as manifesting the intimate connection of the general with the special, and as exemplifying, in form and style of composition, and in the selection of results taken from the mass of our experimental knowledge, the spirit of the method in which I have proposed to myself to conduct the whole work. In the two succeeding volumes I design to consider some of the particular incitements to the study of nature—to treat of the history of the contemplation of the physical universe, or the gradual development of the idea of the concurrent action of natural forces, (Kräfte,)

coöperating in all that presents itself to our observation; and lastly, to notice the specialties of the several branches of science, of which the mutual connection is indicated in the general view of nature in the present volumes."

A large portion (nearly one fifth of the text) of the volume before us, is occupied with an introductory exposition of the various kinds or gradations of enjoyment afforded by the contemplation of nature and the investigation of her laws, and with an essay on the limitation and methodical treatment of a physical description of the universe considered as a separate and independent science—"the science of the Kosmos." The mere aspect of nature, as has been often and well observed, is a source of positive and high enjoyment; and exercises, even on rude minds, and under the sway of wild passions, if only sufficed to claim attention at all, a calming and elevating influence. In all her scenes, "there is everywhere revealed to the mind an impression of the existence of comprehensive and permanent laws governing the phenomena of the universe;" before the idea of whose vastness and regularity the turbulence of human passion feels itself reprov'd and shrinks abashed. Whatever be the peculiar inherent or temporary character of the scene contemplated—even in her most agitated moods—this sense of the regulated and the imperturbable is never wholly effaced. We know that the storm will rage itself to rest, the angry billows subside, the earthquake roll away, and that holy calm which is her habitual mood be restored as if it had never been broken. "That which is grave and solemn in such impressions is derived from the presentiment of order and of law, unconsciously awakened by the simple contact with external nature; it is derived from the contrast of the narrow limits of our being with that image of infinity which everywhere reveals itself—in the starry heavens, in the boundless plain, or in the indistinct horizon of the ocean."

Enjoyment of a different, and, in some respects, of a richer, because of a less overwhelming and more exciting kind, is that which depends on the peculiar physiognomy of natural scenes. Harmonizing, like music, with internal trains of thought and imagination, and with every conceivable state of mind, they awaken of themselves, as soon as presented, sentiments congenial to them, and lead the spirit, by strong associative links, through every phase of feeling. The barren monotony of one region, the varied fertility of another, the gloomy and romantic horrors of a third—the peaceful dwelling rising by the torrent's side—the misty region, where the mule seeks his track amid eternal snows—the tropical night, "when the stars, not sparkling as in our climates, but shining with a steady beam, shed on the gently heaving ocean a mild and planetary radiance"—the deep and doubly wood-clothed valleys of the Cordilleras—the volcanic peak cleaving the clouds, from a base of vineyarded slopes and orange-groves washed by a tropical sea—the dense forest, of giant and pri-

meval growth, swarming with every form of vegetable and animal life, now resounding to savage yells, and now to the thunder-clap, extinguishing and crushing down all other sound—these and a thousand other combinations find each its response in some train of human emotions and affections, which, like the lyre of Timotheus, they by turns excite and soothe.

As the poetical enjoyment of nature springs out of this its endless variety, so, on the other hand, the unity of plan, which even uncultivated minds fail not to recognize amid so much diversity, calls forth the latent germ of the philosophic spirit. When—

“—far from our native country, after a long sea voyage, we tread for the first time the lands of the tropics, we experience an impression of agreeable surprise in recognizing, in the cliffs and rocks around, the same forms and substances, similar inclined strata of schistose rocks, the same columnar basalts which we had left in Europe; this identity, in latitudes so different, reminds us that the solidification of the crust of the earth has been independent of the differences of climate. But these schists and these basalts are covered with vegetable forms of new and strange aspect. Amid the luxuriance of this exotic flora, surrounded by colossal forms of new and unfamiliar grandeur and beauty, we experience (thanks to the marvellous flexibility of our nature) how easily the mind opens to the combination of impressions connected with each other by unperceived links of secret analogy. The imagination recognizes in these strange forms nobler developments of those which surrounded our childhood; the colonist loves to give to the plants of his new home names borrowed from his native land; and these strong untaught impressions lead, however vaguely, to the same end as that laborious and extended comparison of facts, by which the philosopher arrives at an intimate persuasion of one indissoluble chain of affinity binding together all nature.”

One word on this last sentence:—Is it really true, that the uninstructed mind of man, thus turned loose upon nature, *does* spring, as a matter of course, to just conclusions? Are his homely analogies always apposite? his extempore classifications correct? his rude inductions legitimate? If so, what need of study and research? How is it, then, that we are to understand what is here intimated, and is there any sense in which it can be received as true? No doubt there is so. There are truths so large, so general, so all-pervading, that they make a part of all our experience, mix with our whole intellectual being, and imbue all our judgments, erroneous as well as correct; in this sense, at least, that we never err so far as to place ourselves in conscious opposition to them. Distorted and perverted as such truths may be in their enunciation, by their mixture with extraneous error, we find them still outstanding, redeeming by their presence, and even consecrating, that error, by placing themselves in prominent and ostentatious union with its dogmas. No absurdity would ever obtain a moment's credence, but for the presence in it of some saving particle of one of these great natural truths.

But it is to the instructed only that the contemplation of nature affords its full enjoyment, in the development of her laws, and in the unveiling of those hidden powers which work beneath the surface of things, and which, operating as physical causes, lead back the mind in the chain of causation, through the phenomena of organized life, to powers of a higher order; which, connecting themselves with the idea of Will, involve the conception of Intelligence, from which we are necessarily led to infer Design, and from Design find ourselves forced on the conclusion of Motive. It is thus, and thus only, that the contemplation of nature can be said to lead us up, by legitimate induction, to its Author—to so much of his character, at least, as he has thought fit to reveal to us through his works. But, that it may do so, we must educate our perceptions by practice and habit, till we learn to disregard specialties, whether of objects or laws, and see rather their relations and connections, their places in a system, their fulfilment of a purpose, their adaptation to an interminable series of intersubservient ends. And this we must endeavor to do without losing sight of the objects themselves, which come at length to stand in intellectual relation to these more spiritualized conceptions, as the notion of substance does to that of quality in some of our older metaphysical theories—as that substratum of being in which such conceptions inhere, and which serves to bind them together, give them a body, and coerce them from becoming altogether vague and imaginary. And, moreover, we must be careful to raise up no self-created phantasms of our own minds, interposing an impassable barrier to further progress, and cutting off the chain of connection by a stern *ne plus ultra*. As the distinction drawn in the Aristotelian Philosophy between celestial and terrestrial motions operated for ages to cut off the possibility of arriving at any just views of the planetary system, so it is perfectly conceivable that, by gratuitous assumptions of another kind, we may wilfully sever ourselves from the possible attainment of knowledge of a far higher order. Against certain notions of this description, which have obtained, or may be obtaining, currency; and others which, without being expressed in words, appear to be extensively, though tacitly, received in science, we consider it worth while to enter our protest:—

The first is, “that ancient belief, that the forces inherent in matter, and those which regulate the moral world, exert their action under the government of a primordial necessity, and in recurring courses of greater or less period. It is this necessity, this occult but permanent connection, this periodical recurrence in the progressive development of forms, of phenomena and of events, which constitute nature, obedient to the first imparted impulse of the Creator. Physical science, as its name imports, limits itself to the explanation of the phenomena of the material world by the properties of matter. All beyond this belongs, not to the domain of the physics of the universe, but to a higher class of ideas. The discovery of laws, and

their progressive generalizations, are the objects of the experimental sciences." (Transl. p. 33.)

The frame of nature, moral as well as physical, according to this idea, is a piece of mechanism, which wound up and set going, has been abandoned to itself, to evolve its changes in variously superposed periods, without choice or option, according to the combinations of an occult wheel-work. If, indeed, there were no such phenomenon as will; if we were conscious of being thus blindly hurried along by the uncontrollable swing of the system of which we form a part, at every moment and in every action, such a system might be tenable. Periods of unknown length, superposed according to no discoverable law, lose their character of periodicity to the eye of the observer; and *periods of event*, apart from the notion of the measurement of time, similarly superposed, resolve themselves, so far as observation is concerned, into that imperfect and inadequate idea of causation which considers it as simply a determinate rule of sequence. But *Will*, admitted into any part of such a system, destroys the whole of it. The blind, unintelligent portions of the mechanism must be invested with the power, and be urged by the necessity of conforming themselves to that will, as to the original impulse which set the whole in motion; and how are we then to distinguish between those evolutions which result from a will of which we are conscious, and those which, for aught we know, may be continually resulting from a will continually in action, though concealed from our knowledge and perception?

Another notion, equally destitute, in our eyes, of positive foundation, but much more likely than the former to act prejudicially in limiting the progress even of physical knowledge, is the assumption, as old as Aristotle, that all the phenomena of nature are referable to *motions* performed in obedience to what we are in the habit of calling *mechanical laws*; that, in other words, there is no such thing as *qualitative change* unaccompanied by change of place—no causation at work other than mechanical push and pull. It is high time, we think, that this assumption should be formally called in question. We are disposed to believe that science has outgrown it. At the same time, we are quite aware into what a licentious career of wild speculation the mind is ready to rush on the removal of such a limitation; what extravagant theories we must expect to see broached, and what confusion of ideas, nay, what positive charlatanries, we must be prepared to encounter, before any clear and definite conception can emerge from the mass of images which crowd upon us on the suggestion of such a change of ground. We may indicate, however, one or two, which may perhaps carry with them some degree of distinctness, viz., first, the intension, remission, or creation of mechanical force dependent on the presence or absence of agents, such as electricity and heat, of whose *materiality*, in the usual sense of the word, we have no proof, seeing that inertia (at least, in the case of heat) forms no part of our conception

of them; and secondly, the successive *quasi-undulatory* propagation of qualities—powers of affecting either the senses or material bodies by something different from mechanical impulse. It is perfectly true, that on the properties of matter only we must rely for the explanation of physical phenomena. But we conceive that those properties are only just beginning to become known to us, that we shall have to reject some which have been assumed as unquestionable, and that it is by no means improbable that science will ere long make us familiar with others, calculated to stretch to the utmost our conception of *material* existence. Entertaining this expectation, we must here, once for all, observe, that the continual use of the word *forces* in the work before us, in such phrases as "the forces of nature"—"the concurrent action of natural forces"—grates with something approaching to a painful harshness on our ears. We should be inclined to substitute for it, wherever it occurs, the expression "physical powers," a sense which the German *Kräfte* might bear, we think, without violence.

A third dogma, which has of late been placed in prominence, much, as we conceive, to the detriment of sound philosophy, is that of the so-called, or rather mis-called, *positive philosophy*—an extravagant and morphological transformation of that rational empiricism, which professes to take experience for its basis; resulting from insisting on the prerogatives of experience in reference to external phenomena, and ignoring them in relation to the movements and tendencies of our intellectual nature:—a philosophy which, if it do not repudiate altogether the idea of causation, goes far, at least, to put it out of view, and with it, everything which can be called *explanation* of natural phenomena, by the undue predominance assigned to the idea of law:—which rejects as not merely difficult, not even simply hopeless, but as utterly absurd, unphilosophical, and derogatory, all attempt to render any rational account of those abstract equation-like propositions, in which it delights to embody the results of experience, other than their inclusion in some more general proposition of the same kind. Entirely persuaded that, in physics, at least, the inquiry into causes is philosophy; that nothing else is so; and that the chain of causation upwards is broken by no solution of continuity, constituting a gulph absolutely impassable to human faculties, if duly prepared by familiarity with the previous links; we are far from regarding the *whole* office of experimental philosophy as satisfactorily expressed, by declaring it to consist in the discovery and generalization of laws. There are two ways of expressing every law of nature—one which does, the other which does not, bear reference to the cause, which lies at the root of the phenomenon. It is something distinct from, and more than a mere generalization of law, which refers the planetary motions to *Force* as a Cause of motion. No acuteness would ever have sufficed to conclude the laws of perturbation from those of elliptic motion, and to detect a new planet by the mere

knowledge of these latter laws, had this word, the key of the whole riddle, remained unpronounced. The craving of the philosophic mind is for *explanation*, i. e. for the breaking up of complex phenomena into *familiar* sequences, or equally familiar transitional changes, or cotemporary manifestations; which, under the names of cause and effect, we are content to receive (at least temporarily) as ultimate facts, and which nothing but perfect familiarity divests of that marvellous character which they really possess—which are only not looked upon as *miraculous* because they are usual. When we work our way up to facts of this character, physical inquiry ends, and speculation begins. Very few such ultimate facts have hitherto been arrived at in physics; and it is to the increase of their number, by future inquiry, that we must look for any prospect of erasing any one of them from the list, i. e. of explaining it. No doubt explanation must ever be imperfect, if quantitative laws be wanting as a feature. But the first, at least the most necessary office of experimental philosophy, is, the detection of the *influential thing*, the *ultimate fact*, or facts, on which explanation hinges—its subsequent, and, in that sense, subordinate, though still most useful and important one; to discover the formal and quantitative laws of that influence. If, indeed, it be said, that the proposition announcing these ultimate facts is a *law*, in the sense of the word intended, we protest against the abuse of language, which confounds, under one form of expression, the detection of the law itself, and the subject matter of the law—the *quod loquimur*, with the *de quo*.

With the richness of idea and command of resource which natural knowledge confers, civilization goes hand in hand. The remarks of M. de Humboldt on this part of his subject are so pointed and impressive, that we cannot refuse ourselves the pleasure of quoting them:—

“The clearer our insight into the connection of phenomena, the more easily we shall emancipate ourselves from the error of those who do not perceive that, for the intellectual cultivation and for the prosperity of nations, all branches of natural knowledge are alike important, whether the measuring and describing portion, or the examination of chemical constituents, or the investigation of the physical forces by which all matter is pervaded. * * * An equal appreciation of all parts of natural knowledge is an essential requirement of the present epoch, in which the material wealth and the increasing prosperity of nations are in great measure based on the more enlightened employment of natural products and forces. * * * The most superficial glance at the present condition of European states shows that those which linger in the race cannot hope to escape the partial diminution, and, perhaps, the final annihilation of their resources. * * * The danger * * * must be averted by the earnest cultivation of natural knowledge. * * * Knowledge and thought are at once the delight and the prerogative of man; but they are also a part of the wealth of nations, and often afford to them an abundant indemnification for the more sparing bestowal of natural riches.”

To all this, of course, we heartily subscribe; and we only wish that the limit M. de Humboldt has prescribed to himself would have permitted him to extend the scope of his remarks, clothed, as they are, in such animated language, to embrace a far wider range of application. The frame of nature is not bounded by that narrow limit which is commonly understood by the term physics. Life, thought, and moral and social relation, are all equally *natural*—equally elements of the great scheme of the Kosmos with matter and magnetism. The only imaginable reason why the sciences growing out of these ideas are not regarded and handled, or have not hitherto effectually been so, as branches of natural science and inductive inquiry, is the great difficulty of arriving at true statements of facts in some, owing to the conflict of partial interests, and the great danger and consequent heavy responsibility attending experiments in others. These obstacles can only be removed by the general enlightenment of mankind, enabling them to perceive that their true interests require truth in the statement of facts; deliberate caution in undertaking, and patience—long, calm, enduring patience—and hearty coöperation, in watching the working out of social and legislative experiments.

A great and wondrous attempt is making in civilized Europe at the present time: neither more nor less than an attempt to stave off, *ad infinitum*, the tremendous visitation of war; and, by removing or alleviating the positive checks to the growth of population, to diminish the stringency of the preventive ones, and to subsist continually increasing masses on a continually increasing scale of comfort. May it be successful! But the only conditions on which it can be so are, that nature be laid yearly more and more under contribution to human wants; and that the masses themselves understand and go along with the exertions making in their favor in a spirit of amicable and rational conformity. To no other quarter than to the progress of science can we look for the least glimpse of a fulfilment of the first of these conditions. Neither the activity of hope, nor the energy of despair, acting by stationary means on unvarying elements, can coerce them into a geometrically increasing productiveness. Science must wave unceasingly her magic wand, and point unceasingly her divining rod. The task now laid on her, however, is not of her own seeking. She declines altogether so dread a responsibility, while yet declaring her readiness to aid to the utmost of her powers; claiming only the privilege, essential to their available exertion, of free, undisturbed, and dispassionate thought, and calling upon every class to do its duty; the higher in aiding her applications, the lower in conforming to her rules.

In that part of his work which treats of the limits and method of exposition of the physical description of the universe, M. de Humboldt takes considerable pains to represent the “Science of the Kosmos” as a separate and independent department of knowledge, distinct in scope and kind from

a mere encyclopædic aggregation of physical sciences. We concern ourselves little whether in this he have succeeded in making out a useful and available distinction; admitting, as he does, that in his mode of conceiving and handling it, it is, in effect, the aggregate, by simple juxtaposition, of two separate and very unequal portions, similar in character so far as the *less* can be similar to the *more* complex. He regards it, in short, as physical geography enlarged by such a description of the heavens and their contents as shall correspond in plan and in conception (so far as our knowledge extends) to that description of the earth and its denizens which is intended by the former designation. In so far, then, as physical geography is entitled to be termed a separate and independent science, kosmography, or the science of the Kosmos, is so also, and a more general one, including the other. A Chinese map of the globe is a map of the globe, and not a mere map of China, though the Flowery Land figure therein in rich detail of city, stream, and province; and though Europe, Asia, Africa, and America exist, for the most part, in mere outline, and occupying an extent of surface altogether disproportioned to their true extent and importance. This is not the fault of the Celestial Arrowsmith. Had he known more of the globe, he would have given his countrymen a better map.

Our simile, however, is faulty in one respect. What we know of the contents of space exterior to our globe we at least know truly—at all events, we can separate our knowledge from our ignorance; and it happens, fortunately, that what escapes our view is precisely that which, if seen, would merely serve to puzzle and perplex us; while the great and obvious features which strike us are precisely those which we are best able to reduce to general laws, and to view in systematic connection, and which reveal to us, in its grandest form, the Unity of the Kosmos. The all-pervading power of gravitation, that mysterious reality by which every material being in the universe is placed in *instant* and influential relation with every other, springs forward in a state of disengagement and prominence on the contemplation of the celestial movements which it, perhaps, might never have assumed had not the opportunity been afforded us of so contemplating it, apart from the distracting influence of corpuscular forces which, in innumerable instances, mask and overlie it in its exhibition on the surface of our planet. And again: the phenomenon of light, its uniform properties and equal velocity from whatever quarter of space it reaches us, and the certainty those properties afford of the existence of a perfectly uniform mechanism, coëxtensive with space itself, continually occupied in the discharge of the most important of all offices, that of conveying at once information and vital stimulus from every region of space to every other—facts of this kind, were there no other, would suffice to force upon our minds the clear perception of a unity of plan and of action in the constitution of nature. "A connection is maintained, by means of light and radiant heat, both with the

sun of our own system, and all those remoter suns which glitter in the firmament. The very different measure of these effects must not prevent the physical philosopher, engaged in tracing a general picture of nature, from noticing the connection and coëxtensive dominion of similar forces." (*Kosmos*, p. 146., Transl.)

We therefore entirely agree with our author in the propriety of that arrangement of his work which gives the precedence of treatment to the celestial over the "telluric" view of nature; and prefaces the description of our own globe by that of the sidereal and planetary system. And whether such description be properly regarded as the exposition of a body of science, or (as we should rather feel disposed to look upon it) a sort of epos, a noble oratorio, or a grand *spectacle*, we are delighted to receive it at his hands, and to throw ourselves into that frame of mind for its reception which shall be best calculated to heighten the impression, and do justice to the exponent.

Taking our stand, therefore, on the extreme verge of the visible creation, let us for an instant look about us, ere we descend with him, like the angelic messenger in Milton, through stars, nebulae, and systems, to this planetary sphere and its central sun. Where are we? Is there such an extreme verge? This question, which lies at the very threshold of an exposition of the Kosmos, *per descensum*, is one which has so little to recommend it as a matter of discussion that we certainly should not mention it here, had it not got involved in an astronomical speculation of a very singular nature. The assumption that the extent of the starry firmament is literally infinite has been made, by one of the greatest of astronomers, the late Dr. Olbers, the basis of a conclusion that the celestial spaces are in some slight degree deficient in *transparency*; so that all beyond a certain distance is, and must forever remain, unseen; the geometrical progression of the extinction of light far outrunning the effect of any conceivable increase in the power of our telescopes. Were it not so, it is argued, every part of the celestial concave ought to shine with the brightness of the solar disc; since no visual ray could be so directed as not, in some point or other of its infinite length, to encounter such a disc. With this peculiar form of the argument we have little concern. It appears to us, indeed, with all deference to so high an authority, invalid; since nothing is easier than to imagine modes of systematic arrangement of the stars in space (entirely in consonance with what we see around us of the principle of subordinate grouping actually followed out) which shall strike away the only foundation on which it can be made to rest, while yet fully vindicating the absolute infinity of their number. It is the conclusion only which it appears to us important to notice, as having recently been attempted to be established on grounds of direct statistical enumeration of stars of different orders of brightness, by the illustrious astronomer of Pulkova, in a remarkable work, (*Etudes d'Astronomie Stellaire*), and even some rude approx-

imation made to the rate of extinction. It would lead us far beyond our limits to attempt even to give a general idea of his reasonings, but one remark on the whole subject we cannot forbear. Light, it is true, is easily disposed of. Once absorbed, it is extinct forever, and will trouble us no more. But with radiant heat the case is otherwise. This, though absorbed, remains still effective in heating the absorbing medium, which must either increase in temperature, the process continuing, *ad infinitum*, or, in its turn becoming radiant, give out from every point at every instant as much heat as it receives.

Of the supposed luminiferous ether itself, as one of the material or quasi-material contents of space, M. de Humboldt says nothing. He waives, designedly, at least in the present volume, any allusion to that, and all other theoretical conceptions. The view of creation which he takes, and which we must take with him, is so purely and entirely objective, so closely confined to what Mr. Mill would call the *collocations* of the Kosmos, that even the Newtonian law of gravitation, with its noble train of mathematical consequences, is excluded from all direct and special notice. We must not, therefore, wonder, but accept it as part of the determinate plan of the work, that light itself is spoken of only incidentally, as affording a measure of sidereal distance by its velocity, and as conveying to our eyes the images of remote sidereal objects, not as they now exist, but as they existed years or ages ago; or that no account is given of the Gaussian generalizations of the theory of the terrestrial magnetism—a subject, of which M. de Humboldt is so preëminently cognizant, that it must have required the greatest self-control, and the most entire satisfaction with his pre-conceived views of the limits of his subject, to have avoided dilating on it.

The most remote bodies which the telescopes disclose to us are, probably, the nebulae. These, as their name imports, are dim and misty-looking objects, very few of which are visible to the unassisted sight. Powerful telescopes resolve most of them into stars, and more in proportion to the force of the instrument; while, at the same time, every increase of telescopic power brings fresh and unresolved nebulae into view. A natural generalization would lead us to conclude that all such objects are nothing but groups of stars, forming systems, differing in size, remoteness, and mode of aggregation. This conclusion would, indeed, be almost irresistible but for a few rare examples, where a single star of considerable brightness appears surrounded with a delicate and extensive atmosphere, offering no indication of its consisting of stars. Such objects have given rise to the conception of a self-luminous nebulous matter, of a vaporous or gaseous nature, of which these photospheres, and, perhaps, some entire nebulae, may consist, and to the further conception of a gradual subsidence or condensation of such matter into stars and systems. It cannot be denied, however, that the weight of induction appears to be

accumulating in the opposite direction, and that such "nebulous stars" may, after all, be only extreme cases of central condensation, such as two or three "nebulae," usually so called, offer a near approach to. Apart, then, from these singular bodies, and leaving open the questions they go to raise, and apart from the consideration of such peculiar cases as planetary and annular nebulae, the great majority of nebulae may be described as globular or spheroidal aggregates of stars arranged about a centre, the interior strata more closely than the exterior, according to very various laws of progressive density, but the strata of equal density being more nearly spherical according to their proximity to the centre. Many of these groups contain hundreds, nay, thousands, of stars.

Besides these, there exist nebulae of a totally different description; of vastly greater apparent dimension, and of very irregular and capricious forms, of which the well-known nebula in Orion is an example. They form, evidently, a class apart from the others, not only in aspect, but also as regards their situation in the heavens; for whereas the former congregate together chiefly in a great nebulous district remote from the Milky Way, or are otherwise scattered over the whole heavens, (though by no means so as to form what M. de Humboldt terms a "nebulous milky way," or zone of nebulae surrounding the sphere,) these only occur in the immediate vicinity of the galaxy, and may fairly be considered, if not as integrant portions, at least as outliers of it. Their forms, therefore, may be considered as in some degree indicative of the true form of that starry stratum, could we contemplate it from a distance, so far, at least, that we may reasonably suppose it quite as irregular and complex as we observe these, its appendages, actually to be.

M. de Humboldt leans, as might be expected from one especially conversant with organic forms, to that view which represents the nebulae as sidereal systems, in process of gradual formation by the mutual attraction of their parts, and by the absorption of the strictly nebulous element into stellar bodies. "The process of condensation," he says, "which was part of the doctrine of Anaximenes, and of the whole Ionic school, appears to be here going on before our eyes. The subject of conjoint investigation and conjecture has a peculiar charm for the imagination. Throughout the range of animated existence, and of moving forces in the physical universe, there is an especial fascination in the recognition of that which is becoming, or about to be, even greater than in that which is, though the former be indeed no more than a new condition of matter already existing; for of the act of creation itself, the original calling forth of existence out of non-existence, we have no experience, nor can we form any conception of it."

That the whole firmament of stars visible to us, even with the help of telescopes, belongs to that vast sidereal stratum which we call the Galaxy, seems hardly to admit of doubt. The actual form of this stratum; further than that it is not

improperly characterized as such, can hardly be said to be known with any approach to certainty; but that its extent in a direct line outwards is enormously greater in some directions than in others, and that in one portion of its extent it is, as it were, elef, and contorted, in others lengthened into processes stretching far into space, seems to rank among the positive conclusions of astronomy. In certain directions its extent would seem to be unfathomable to our best telescopes; in others, there is reason to believe we see through and beyond it, even in its own plane.

Of the distance of the stars of which this vast stratum consists, at least of some of the nearest of them, we are beginning, at length, to possess some certain knowledge. The bright star α Centauri has a measured parallax (as the observations of Henderson and Maclear teach us) of nearly a whole second, ($0''.9128$), which places it at a distance from us equal to 226,000 radii of the earth's orbit. That of 61 Cygni has been ascertained by Bessel to be no less than 592,300 such radii, while the observations of Struve place α Lyre at 789,600 of similar units from our system. Such is the scale of the system to which we belong, such the magnitudes we are led to regard as small, in comparison with its actual extent! The number of stars whose distance is imperfectly known to us at present is about thirty-five, seven of which may be considered as determined, with some approach to certainty, by the recent researches of Mr. Peters.

Among the countless swarm of what are commonly called fixed stars, there is not one, probably, which really merits the name. In by far the great majority, a minute, but regularly progressive, change of place is observed to take place; and, from a careful examination of these movements, as observed in stars visible in Europe, it has been concluded that a portion at least of them is only apparent, and arises from a real motion of our own sun, carrying with it the whole planetary system, towards a point in the constellation Hercules, in R. A. $259^{\circ} 35'$ decl. $34^{\circ} 34'$ north. This extraordinary conclusion, resting as it does on the independent and remarkably agreeing calculations of five different and eminent astronomers, from data afforded by northern stars, has, within the last few months, received a striking confirmation by the researches of Mr. Galloway, who has arrived at the very same conclusion, from calculations founded on the proper motions of stars in the southern hemisphere, not included among those used by his predecessors. In this path the sun moves with the prodigious velocity of 400,000 miles, or nearly its own semi-diameter, *per diem*.

Independent of the movements of translation not accounted for by this cause, several of the stars have a rotary motion, forming pairs or binary systems, called double stars, revolving about each other in regular elliptic orbits, governed by the Newtonian law of gravitation. This sort of connection, suggested as theoretically probable by Mitchell, and demonstrated as a matter of observa-

tion by Herschel, has now been distinctly traced in fifty or sixty instances, (M. de Humboldt, anticipating what will doubtless one day prove to be a fact, says 2800,) among which occur examples of periodic revolutions of 200, 182, 117, 61, 44, and even 17 years, and of orbits, in some cases so eccentric as to be quite cometary, in others nearly circular. Some again are concluded, with much probability, to revolve on their axes, from the observation of regular periodic changes in their lustre; while others vary in no regular and certain periods, undergoing great and abrupt changes, for which no probable cause has yet been assigned. In one remarkable instance a change of color would appear to have taken place. Sirius, which is now one of the whitest of the stars, is characterized by Ptolemy as red, or at least ruddy. *Ὁ δὲ Σείριος, ὑπόκρινος*, is his expression, speaking pointedly of its color, and not of its scintillations.

Not the least surprising, is the actual and positive knowledge we have obtained of the *weight* or quantity of matter contained in at least one of the binary stars, 61 Cygni; from whose orbital motion, compared with its distance, Bessel has concluded that the conjoint mass of its two individuals is "neither much more nor much less than half the mass of our sun." It appears as a star of the sixth magnitude. From the photometric experiments of Wollaston on α Lyre, compared with what we know of its distance, its actual emission of light may be gathered to be not less than $5\frac{1}{2}$ times that of the sun. Sirius, which is nine times as bright as α Lyre, and whose parallax is insensible, cannot, therefore, be estimated at less than 100 suns.

Non-luminous stars have been conjectured to exist, and Bessel even considered that some irregularities, supposed to subsist in the proper motions of Procyon and Sirius, could no other way be accounted for than by supposing them to be revolving about invisible central bodies. The illustrious astronomer of Pulkova, in the work we have already had occasion to cite, has, however, by destroying the evidence of irregularity by a careful revision of all the recorded observations, rendered it unnecessary to resort to such an hypothesis.

Neither have attempts been wanting to deduce from the proper motions of the stars the situation in space of the "Central Sun," about which the whole firmament revolves. Lambert placed it in the nebula of Orion; Maedler, very recently, in the Pleiades, on grounds which, however, appear to us anything but conclusive.

The vast interval which separates our system from its nearest neighbors among the fixed stars, is a blank which even the imaginations of astronomers have been unable to people with denizens of any definite character, other than a few lost comets slowly groping out their benighted way to other systems, or torpidly lingering in *aphelio*, expecting their recall to the source of light and warmth. In the utter insulation of this huge intervening gulph, it is impossible not to perceive a guarantee against extraneous perturbation and foreign interference,

or to avoid tracing an extension of the very same principle of subordinate grouping which secures the satellites of our planets from too violent a perturbative action on the part of the central body. It thus assumes the character and importance of a cosmical law; and, while it affords another and most striking indication of the unity of plan which pervades the universe, may lead us to believe that, if other systems yet exist in the immensity of space, they may be separated from our own by intervals so immense as to appear only as dim and nebulous specks, or utterly and forever to elude our sight.

Descending, now, with our guide through this *vacuum inane* to our own system, we shall for a moment depart from his arrangement to strike at once upon its central body—our own sun. This, indeed, can hardly be called a departure, since, by an extraordinary omission, we find no special notice taken by M. de Humboldt of this magnificent globe. Yet, surely, there is matter of sufficient interest in what is known and seen of its physical constitution and important peculiarities, to have justified, indeed to have required, their not being passed *sub silentio* in a physical description of the universe. If there be much, as yet mysterious, in its inexhaustible emission of light and heat, there is also much in the mechanism by which that emission is produced which is matter of ocular inspection. We know, for instance, that the sun is not simply an incandescent mass; that the luminous process, whatever its nature, is superficial only, being confined to two strata of phosphorescent clouds, floating in an atmosphere of considerable but imperfect transparency, extending to a vast distance beyond them; that these clouds are often driven asunder by tumultuary movements of astonishing energy and extent, disclosing to our eyes the dark surface below; that the region in which these movements take place is confined to an equatorial belt of about sixty degrees in breadth, being, however, comparatively much less frequent in the immediate vicinity of the equator itself. We know, moreover, that the time of its rotation (25½ days) stands in decided and pointed dissonance with the Keplerian law of the planetary revolutions, and that therefore the sun has *most certainly not* been formed by the simple subsidence of regularly rotating planetary matter gradually contracting in dimension by cooling; a fact which the advocates of the nebulous hypothesis must, therefore, render some other account of.

The primary planets known to us at the present moment are sixteen in number, including no less than five which have been added to the list since the publication of the *Kosmos* in 1845. The discovery of one of these, Neptune, by the mere consideration of the recorded perturbations of the remotest planet previously known, by the theory of gravitation, as delivered by Newton, and matured by the French geometers, will ever be regarded as the most glorious intellectual triumph of the present age. If anything could enhance its claim to be so considered, it is the assurance given

us of the exceedingly firm grasp by which theory has seized on this most complicated subject; by the fact of the discovery having been made almost simultaneously by two geometers of different nations, pursuing different courses of investigation, each in entire ignorance of the other's proceedings, and arriving at what may fairly be termed the same identical place of the yet unseen planet. It is not a little remarkable that astronomy, the oldest, and, as it might be considered, the maturest among the sciences, is perhaps at this moment the most rapidly progressive of any, such is the novelty as well as the magnitude of the facts which every year brings forth.

M. de Humboldt in this division of his subject, presents us with a rapid, but an extremely striking and well-digested view of the "collocations" of our system; that is to say, of the actual arrangement and distribution of its masses in respect of their magnitudes, densities, and distances from the sun, their times of rotation on their axes, and the extent of their provision with satellites. We have never met with a better *exposé* of these particulars, grouped as they are under a variety of aspects, with the object of bringing into view the general relations, if any, which exist between them.

"It has been proposed to consider the telescopic planets," now eight in number, between Mars and Jupiter, "with their more eccentric, intersecting, and greatly-inclined orbits, as forming a middle zone, or group, in our planetary system; and if we follow out this view, we shall find that the comparison of the inner group of planets, comprising Mercury, Venus, the Earth, and Mars, with the outer group, consisting of Jupiter, Saturn, Uranus," (and Neptune,) "presents several striking contrasts. The planets of the inner group, which are nearer the sun, are of more moderate size, are denser, rotate round their respective axes more slowly, in nearly equal periods, differing little from twenty-four hours, are less compressed at the poles, and, with one exception, without satellites. The external planets * * * are of much greater magnitude, five times less dense, more than twice as rapid in their rotation round their axes, more compressed at the poles, and richer in moons in the proportion of seventeen" (eighteen) "to one."

So soon as we descend to particulars, however, we find these general relations broken in upon by continual exceptions. The history of the discovery of Neptune has afforded a signal instance how little reliance could be placed on a *law of collocation*, which had begun to be considered as a fundamental relation pervading the whole system. Still, as such laws, partially carried out, they possess a peculiar interest, especially when we consider the exactness of numerical relation which holds good in several instances, and which leads irresistibly to speculate upon causes, as is the case with all close numerical coincidences, which nothing can persuade us to believe purely accidental when they take place in matters of fact. Why, we are tempted to ask, do the diurnal rotations of Mercury, the Earth, and Mars, agree to a minute? Why are the densities of the Sun, Jupiter, Ura-

nus, (and? Neptune) exactly alike, and just one fourth of the Earth's! Again, among the satellites, *why* are the periodic times of Saturn's third and fourth satellites respectively, *precisely* double those of the first and second! And *why* are the rotations of the satellites, generally, on their axes performed in *precisely* the same times as their revolutions about their respective primaries! Of this last-mentioned coincidence, indeed, a mechanical explanation is given, (Kosmos, p. 155, Trans.) which we are aware rests on high authority. It pre-supposes, however, (which our author does not appear to have recollected,) an original, *very near* adjustment to exact coincidence; and even with this admission we remain by no means satisfied of its validity. It appears to us that the very smallest deviation from *perfect* coincidence, originally subsisting, would destroy all tendency to that accumulation of matter on one diameter of the satellite, and consequent permanent elongation of its figure, which the further steps of the so-called explanation require.

By far the most wonderful and mysterious bodies of our system are the comets. Their number is immense, their variety of aspect infinite, their magnitude astounding. Apart from the magnificence of their appearance, and the interest attaching to their eccentric orbits, and utter contempt of the ordinary planetary conventions in their excursions into space, they have become to us instruments of physical inquiry; and the study of their motions has disclosed to us features in the constitution of our system of which we should otherwise have had no idea, and afforded opportunities, which, but for them, had been altogether wanting of completing our knowledge of the masses of the planets themselves. Their almost spiritual tenuity enables them to feel as it were, and to manifest by a sensible retardation the resistance of a medium pervading the planetary spaces, while the direction of their tails always turned from the sun, and the enormous velocity with which these singular appendages have appeared on some occasions to be projected in the opposite direction to the solar gravity, has afforded more than a presumption of the existence of repulsive as well as attractive forces in our system. It would be endless to recount the singularities presented by these bodies. Some have had two tails, one (1744) six, and some none at all, though otherwise large and conspicuous. Many have been seen in bright sunshine and at noon-day, as was the case with the recent magnificent one of 1843. The tails of some have equalled, and even surpassed in length, the radius of the earth's orbit; and through those of the comets of 1819 and 1823, the earth itself is supposed to have passed. The famous comet of Lexell passed twice (1767 and 1779) among the satellites of Jupiter, and approached the earth in 1770 within six times the distance of the moon. Several of them return in known periods; the celebrated comet of Halley in 76-871 years; that of Encke in 3-316; that of Biela in 6-599, and that of Faye in 7-29 years. The climax to the bizzareries of

these singular bodies was afforded in 1846 by one of these last-mentioned comets, (that of Biela,) which was actually seen to separate itself into two; which, after thus parting connection, continued amicably journeying along side by side without further mutual disturbance.

The fall of masses of stone, of iron, and of ashes and other substances from the heavens, is a fact now so thoroughly well attested, that every doubt as to its reality has long since vanished. The latter phenomenon may not unreasonably be attributed to volcanic eruptions, or to matter swept from the surface of the earth by tempests and whirlwinds, carried to a vast height, and deposited at great distances from its origin; and such, indeed, appears to have been the case in many well authenticated instances. We have before us a portion of a sheet of 200 square feet, of a substance exactly similar to cotton felt, and of which clothing might be made, which fell at Carolath, in Silesia, in 1839. On microscopic examination it is found to consist of delicate matted and bleached confervæ containing infusoria; and was therefore, doubtless, raised from its natural site, the dried bed of some lake or marsh, and wafted to the place of its fall by a storm.

But no such explanation will apply to the astounding phenomenon of the sudden fall of blocks of stone or iron of several pounds, nay tons, in weight.

"A presumptuous scepticism," says M. de Humboldt, "which rejects facts without examination of their truth, is, in some respects, even more injurious than an unquestioning credulity. It is the tendency of both to impede accurate investigation. Although for upwards of 2000 years the annals of different nations had told of falls of stones, which, in many instances, had been placed beyond doubt by the testimony of irreproachable witnesses; although the Bætylia formed an important part of the meteor worship of the ancients, and the companions of Cortes saw, at Cholula, the aerolite which had fallen on the neighboring pyramid; although caliphs and Mongolian princes had had swords forged of fresh-fallen meteoric iron; and even although human beings had been killed by the falling stones (viz., a friar at Crema on the 4th of September, 1511, a monk at Milan, 1650, and two Swedish sailors on board a ship in 1674;) yet, until the time of Chladni, who had already earned for himself imperishable renown in physics by the discovery of his figure-representations of sound, this great cosmical phenomenon remained almost unheeded, and its intimate connection with the planetary system remained unknown."

We can pardon some degree of scepticism, on a subject apparently so marvellous, before the assemblage of recorded facts had brought a mass of independent and agreeing evidence to bear upon the general mind, nauseated as it had become by tales of monkish miracle and travellers' wonders. Chladni wrote in 1794, and his work had eventually shaken this scepticism, and excited general attention, when, on the 26th of April, 1803, a shower of stones, thousands in number, and several of them weighing many pounds, was hurled over a district of between twenty and thirty square miles

in extent, by the explosion of a globe of fire in mid-day and in a clear sky, vertically over the town of l'Aigle, in Normandy. This was precisely the opportunity to inquire minutely into all the circumstances of the event, and to place them on official record. Accordingly, at the instance of the French Academy of Sciences, the government commissioned M. Biot to proceed to the spot, examine witnesses, and collect every particular. His report on this event, which forms part of the memoirs of the Institute for 1806, leaves no room for doubt as to its reality. Trees were broken, houses struck, the ground ploughed up, the actual stones picked up or dug out in vast abundance. Many persons had narrow escapes, and one was slightly wounded. A list published by Chladni (*Ann. du Bureau des Longitudes*, 1825) enumerates upwards of 200 instances of similar occurrences, collected from the annals of all nations, China included; among which we observe no less than sixteen recorded in the British Isles subsequent to 1620, one of which (May 18, 1680) took place in London. Subsequent research has added largely to this list, and new occurrences of the kind are continually happening. Many of the masses which have so fallen have been of great magnitude. To say nothing of the enormous weight of some of the blocks of iron supposed to be of meteoric origin; the stone which fell at Ægospotamos was as large as two mill-stones; and that which fell at Narni, A. D. 921, formed a rock projecting four feet above the surface of the river. A mass of this magnitude, so distinct in its nature from the materials of the surrounding rocks, and in a locality so very definite, might surely yet be found by persevering search. Facts of this kind preclude all idea of their being formed in the air from floating vapors, while their difference from all known volcanic products or minerals excludes their reference to a terrestrial origin. Volcanoes in the moon were for a time resorted to, and M. de Humboldt (note 69) is at some pains to prove this opinion untenable. We believe it to be now entertained by no one. Their planetary nature is the only remaining account which can be given of their origin; and this opinion he of course adopts, classing them with the other admitted members of our system. The phenomena of their explosion, and the violent, though transient and merely superficial heat which they undergo at the moment of their fall, may perhaps be considered as militating against such an origin. But we perceive nothing in these circumstances incompatible with the necessary consequences of such a rencontre. Arriving with planetary velocity at the confines of our atmosphere, where the air is many thousand, perhaps million, times rarer than at the surface of the earth, such a body would carry before it the air on which it immediately impinged, compressing it to an enormous *relative* extent against its own surface, before the *absolute* compression could reach such a point as to determine its lateral escape. Now, it has been shown by Poisson, (*Ann. de Chim.* xxiii. 341,) that the latent heat of a given weight of air is greater, the

lower the pressure under which it exists. A given quantity (by weight) of air, therefore, at those elevations contains more latent heat than the same quantity at the earth's surface. When condensed, therefore, it will give out *more* heat than would be elicited by the same extent of *relative* condensation from air of ordinary density, which we know to be capable of producing ignition, even under very moderate degrees of sudden compression. A source of sudden and transient heat of almost any conceivable intensity, is thus provided in immediate contact with the surface of the stone, which it would fuse and partly vaporize, while the sudden and violent expansion of the parts immediately beneath the fused film must necessarily cause decrepitation and disruption of fragments. In short, there is no part of the phenomenon which this explanation does not reach. Mere friction against the atmosphere, as suggested by Poisson, seems quite insufficient to produce incandescence.

That a resemblance should be conceived to exist between those globes of fire which throw down stones and those which only gleam and are extinct, or which terminate with a harmless, though often very terrific explosion, is not to be wondered at. Yet the analogy founded on mere optical resemblance would hardly suffice to prove a community of nature or origin. Accordingly, little or no attempt was made to connect these formidable visitors with the innocuous spectacle afforded by shooting stars or train-accompanied meteors, till 1833, when a brilliant display of the November meteors, on the 12th and 13th of that month, repeated on the same days of the following year, brought to recollection a similar display witnessed by M. de Humboldt in 1799, in America. On comparison of dates, it was perceived, with astonishment, that they precisely coincided. The extraordinary fact has since been established by observation, and by the assemblage of ancient and modern records, that meteoric showers occur *periodically* on certain given days of the year, though not of every year, and especially on the 12th—14th November, and the 9th—11th of August; the latter epoch being the most uniform in respect of the intensity of the phenomenon. Another fact, not less striking, has emerged in respect of the directions affected by the meteors in their flight. They diverge, apparently, from fixed points in the heavens, whose longitudes are 90° in advance of the actual places of the earth in the ecliptic at the epochs in question. Such apparent divergence, by the rules of perspective, is the criterion of a real parallelism; and we are thus carried onwards to the inevitable conclusion of a cosmoical origin and common direction of motion, in groups or flights of these bodies, which the earth encounters in its annual path, and which are presumed to form rings or planes more or less interrupted about the sun, revolving according to planetary laws. We agree with M. de Humboldt in considering the general conclusion as perfectly well established, and as justifying his admission of them into the rights of recognized membership of the planetary system.

The zodiacal light is another of those luminous phenomena to which a cosmical origin has always been ascribed:—

"The earliest distinct description" of it "is contained in Childrey's *Britannia Baconica*, (1661.) Its first observation may have been two or three years earlier. Dominic Cassini has, however, incontestably the merit of having been the first (in 1683) to investigate its relations in space. * * * It may be conjectured with much probability that the remarkable light, rising pyramidically from the earth, which, in 1509, was seen in the eastern part of the sky for forty nights in succession from the high table land of Mexico, (and which I find mentioned in an ancient Aztec manuscript in the *Codex Tellerio-Remensis*, in the royal library at Paris,) was the zodiacal light." (Transl., p. 189.

This light, as M. de Humboldt justly reasons, cannot be the solar atmosphere in the ordinary sense of the words. But we cannot so readily admit the conclusion he draws, that it is an extremely oblate ring of lucid vapors revolving in space between the orbits of Venus and Mars. An extent much beyond the earth's orbit, at all events, seems incompatible with its pointed or pyramidal form and termination at a certain apparent distance from the sun, instead of being continued all around the heavens. Nor can we perceive any good reason for ascribing to it an annular form, wholly exterior to the orbit of Venus. The passage which he cites from Cassini, (note 96,) in support of this opinion, appears to us by no means susceptible of this interpretation; nor are we aware of any observations which necessitate such a conclusion, contrary as it is to the opinion generally received on the subject.

Descend we now to our own globe, "from the region of celestial forms to the more restricted sphere of terrestrial forces; from the children of Uranus to those of Gea;" from the contemplation of matter obedient to comparatively few and simple impulses and laws, offering no indications of qualitative diversity—to matter under the influence of molecular forces of excessive complication, and laws very imperfectly understood, exhibiting fundamental diversities of quality, affording endless scope to agencies which scarcely appear to resolve themselves into the simple conception of mechanical effort, and whose active principles, electricity and heat, present themselves to us under aspects now reminding us of the ordinary forms of matter by their quantitative relations to tangible bodies, and now eluding our grasp by a subtlety which seems to transcend our notions of corporeal existence. Here, too, we become conversant with organic life in all its infinite diversities and stages of manifestation, and in all its adaptations to external conditions; as a something superposed upon and subsequent to matter. Here, too, we encounter voluntary motion as something again superposed upon mere organic development; and here, too, the life of instinct and the life of thought, rising higher and higher by successive but gradual steps, till at length one vast bound lands us in HUMANITY, with all its hopes and visions of some-

thing yet beyond. Such is the field we have now to enter upon—

"The wide, th' unbounded prospect lies before us;"

but its richness, no less than its extent, forbids our lingering on its outskirts in idle contemplation of its glories.

The path followed by M. de Humboldt in threading the labyrinth of this vast mass of knowledge, is, perhaps, on the whole, the best which could have been adopted to preserve a continuity of course, and to bring the phenomena to bear on each other with due regard to causal sequence.

He first, under the general head of "Terrestrial Phenomena," gives us an outline of those broad features which have relation to the mass of the earth as a whole; and in which the acting forces and powers are considered in their mean or average intensity, or as acting on the largest scale, unaffected by local causes. The features which admit of being so presented are those which refer to the dimensions and figure of the earth, its mean density and temperature; and the evidences, such as we possess them, of an increase in both these respects, in descending from its surface to its centre. Terrestrial magnetism too, and the disturbances, whatever be their origin, which the magnetic power of the earth undergoes upon the great scale, during "magnetic storms" and auroral displays, as well as those secular variations which modify all its local manifestations, according to laws yet unknown, but whose influence extends to the whole globe, find a natural place in this division of the entire subject.

Under the general notion of the "reaction of the interior of the earth on its exterior," which affords, as it were, the canvass on which to depict the phenomena of earthquakes, volcanoes, hot springs, &c., we recognize the impress of that theory of geological dynamics which represents the external solid crust of the globe as in a continual though exceedingly slow process of contraction, by refrigeration, on its internal liquid contents, by which it becomes placed in a state of strain, which from time to time, and according to local circumstances affording facilities for disruption, relieves itself by fracture and by the ejection of a portion of the liquid matter. Such, at least, seems to be the conception implied in the word *reaction*, which presupposes *action*. The want of an original *primum mobile* competent to the production of the volcano and the earthquake as general, and not as local phenomena, is imperatively felt in geology.

As consequences of this reaction, appearing indifferently on every part of the earth's surface, we have the ejection of *erupted* or "*endogenous*," and the production of *metamorphic* rocks, together with upheavings and subsidences of portions of the earth's crust of greater or less extent, which in the course of ages modify the distribution of sea and land over the surface of our planet. Simultaneous with these changes, but referring themselves to a totally different order of causes, the seat

of which is wholly exterior to our globe, and which depend entirely on the action of the sun and moon as the ultimate causes—the *prima mobilia*—of all those oceanic and atmospheric movements to which continents owe their destruction and reproduction, we have the continual formation of new strata at the bottom of the ocean; their gradual condensation by increase of pressure as more and more of their materials become accumulated; and their ultimate consolidation by the invasion of heat from beneath, in virtue of those general laws which regulate the movement of heat from point to point of bodies, the surface of which is maintained at a temperature, which, for this purpose, may be regarded as invariable. From the combination of the two orders of events arising from the continued action of these two classes of causes, each proceeding in perfect original independence of the other, but each in its progress continually modifying the conditions under which the other acts; and so producing a compound cycle, or rather interminable series, of excessive intricacy; depend all geological phenomena, properly so called. Meanwhile, on this interwoven tissue, as if not yet sufficiently complex, is superposed another cycle of causation in the electro-magnetic relations of the globe, which, though uninfluential as respects the movement of masses, is no doubt powerfully so in the mineralogical arrangement of their particles, in the production of planes of false cleavage in the strata, and in the filling up, by metalliferous and other mineral veins, of the fissures which intersect them. To this class of mineralogical causes (on whose action the researches of Becquerel, Fox, and Hunt have thrown some light, but which stands in need of much more extensive and assiduous inquiry) we are somewhat surprised to find no allusion made in the work before us.

Among the materials of subverted and reconstructed continents, occur the buried remains of their former inhabitants. Palæontology, therefore, and the evidence it affords, in conjunction with other circumstances attending the materials and position of strata, leads us naturally to the consideration of the state of the surface of our globe in former epochs, in relation to its habitability by various orders of organic beings, and more especially to its distribution into sea and land.

"We here indicate a connecting link between the history of the revolutions our globe has undergone, and the description of its present surface—between geology and physical geography—which are thus combined in the general consideration of the form and extent of continents. The boundaries which separate the dry land from the liquid element, and the relative areas of each, have varied greatly during the long series of geological epochs; they have been very different, for example, when the strata of the coal formation were deposited horizontally upon the inclined strata of the mountain limestone and the old red sandstone; when the lias and the oolite were deposited on the keuper and the muschelkalk; and when the chalk was precipitated on the slopes of the green sand and the oolitic limestone. . . . Maps have been drawn repre-

senting the state of the globe in respect of the distribution of land and water at these periods. They rest on a more sure basis than the maps of the wanderings of Io, or even than those of Ulysses, which at best represent but legendary tales, whilst the geological maps are the graphic representations of positive phenomena."

We find ourselves thus introduced to the domain of physical geography, or the description of the actual state of the earth's surface in its three great divisions—those of land, sea, and air—as prepared for the habitation of organic beings, and as exhibiting the play of all those complex agencies on which depend the distribution of temperature and moisture, aerial and oceanic currents, and those conditions which, under the general title of climate, determine the abundance and limits of vegetable and animal forms. A general view of organic life and the distribution of plants and animals, infinitely less copious in detail than we should have expected from the exceeding richness of M. de Humboldt's information on this subject, and a short chapter on man close the text; which is followed by a series of notes, indicating the authorities from which the statements throughout are derived, and full of a vast mass of other information, so interesting, so recondite, so various, as to leave us lost in admiration, both of the reading which could amass, and the discrimination which could select it.

The dimensions and figure of the earth constitute a branch of inquiry on which, perhaps, more pains, labor, and refinement have been lavished than on any other subject of human research. "The history of science," says M. de Humboldt, "presents no problem in which the object obtained, the knowledge of the mean compression of the earth, and the certainty that its figure is not a regular one, is so far surpassed in importance by the incidental gain which, in the course of its long and arduous pursuit, has accrued in the general cultivation and advancement of mathematical and astronomical knowledge." In fact, however, the benefit conferred has not been confined to these. The continual heaping on of refinement upon refinement, in respect both of instruments and methods, has been far from a mere barren and ostentatious accumulation. On the contrary, it has overflowed on all sides, and fertilized every other field of physical research, by the example it has set, and the necessity it has imposed of exactness of numerical determination, mathematical precision of statement, and rigorous account taken of every influential circumstance; as well as by the numerous physical elements whose exact measures and laws it has incidentally required to be known as data. By the improvement of our knowledge of these, the aspect of all science has been changed, and the apparently disproportionate application of talent and cost which have been brought to bear upon the subject, repaid with interest. The fixation of national standards of weight and measure, which has become indissolubly interwoven with it, has ever marked, and will ever continue to

mark, the highest point to which human skill and refinement in the application of science to practical objects are capable of attaining.

In stating the result of these inquiries, M. de Humboldt follows the determination of Bessel in 1841. A better authority he could not have selected, and it is worth while to notice (since he has omitted to do so) the precise coincidence of this determination with that of Mr. Airy in 1831, from the assemblage of all the geodesical measurements then procured—a coincidence amounting in fact to identity, the difference between the two statements of the earth's equatorial diameter being but 234 feet, between those of the polar only 296, and of the compression 38. Neither can we omit to mention here the only considerable accession to our knowledge on this head since the publication of "The Kosmos," viz., the rectification of Lacaille's erroneous arc at the Cape, by the admirable and indefatigable Maclear, (performed at the hazard and almost at the sacrifice of his life,) which has removed forever one of the great stumbling-blocks in the way of general and exact conclusions on this subject.

The ellipticity of the earth, as Playfair has shown, can by no means be taken as affording even the slightest evidence of the entire primitive fluidity of its whole mass. Even when that of the internal strata is taken into the account, if there be any degree of mobility, from whatever cause arising short of entire and simultaneous fluidity, among its materials, this would ultimately conform its internal arrangement, as the sea does its external form, to the elliptic model. We do not mean to deny the strong presumption, however, that such fluidity does prevail at a certain depth: "Tolerably accordant experience has shown that in Artesian wells the average increase of temperature in the strata passed through, is 1° of the Centigrade thermometer for 92 Parisian feet of vertical depth (54.5 English feet for 1° Fahr.) * * * If we suppose this increase to continue in an arithmetical ratio, a stratum of granite would be in a state of fusion at a depth of nearly 21 geographical miles." The phenomena of hot springs in countries where volcanic eruptions have long since ceased; "direct observation of the temperature of rocks in mines; and, above all, the volcanic activity of the earth, ejecting molten masses from opened clefts or fissures, bear unquestionable evidence of this increase for very considerable depths in the upper terrestrial strata." Still we can determine nothing with certainty respecting the depth at which the materials of our rocks exist, "either in a softened and still tenacious state, or in complete fusion; respecting cavities filled with elastic vapors; the condition of fluids heated under enormous pressure; or the law of the increase of density from the surface to the centre." One thing only is certain, that the density *does* so increase, since the wonderfully agreeing conclusions arrived at by Cavendish, Reich, and Baily (for such they ought assuredly to be considered, the difference between Baily and Reich amounting to no more than one twenty-

eighth part) abundantly demonstrate a mean density for the whole mass of five and a half, which is double that of basalt, and more than double that of granite; substances which undoubtedly emanate from very great depths beneath the surface.

The mean temperature of the globe is supposed to have attained so nearly an invariable state, that since the time of Hipparchus, and in an interval of 2000 years, it has not diminished by one three-hundredth of a degree of Fahrenheit's thermometer. This conclusion rests on the records of ancient eclipses, which having taken place in conformity with the theory of gravitation, implies the invariability of our unit of time or of the length of the day, during the interval. Hence Laplace has concluded, and the conclusion may be regarded as certain, that the length of the day, or the time of rotation of the earth on its axis, has not diminished by one hundredth part of a second. Hence also we are entitled to conclude that its mean radius has not diminished by a single yard in that interval. So far we are on sure ground: and if we consent to disregard as merely superficial, the transfer of matter from a higher to a lower level by oceanic and atmospheric abrasion, and the counteracting effect of volcanic ejections—if, moreover, we set as in a balance one against the other, the upheavings of mountain chains, such as our own times have witnessed in the Andes, and the subsidences of extensive districts, such as are going on in Scandinavia, the conclusion, as relates to temperature, must be admitted as valid, however it may be supposed to militate against the refrigeratory theory above alluded to.

The mean temperature at which the surface of the earth is maintained, if we consider the average of the whole globe, depends solely on external causes, the only one of which worth considering as really influential, is the sun's radiation. Of the constancy or variability of this from year to year, or from century to century, we know nothing, though from the analogy of periodical or changeable stars we may surmise anything. But it by no means follows that this ignorance, on a point of such immense importance, is to continue. It is to the temperature of the ocean, continually and carefully observed in those parts of its surface where its changes are least, (in the equatorial region, from 10° N. to 10° S.,) that we must look, with the greatest probability of ultimate success, for the solution of this difficult but interesting problem. In these regions, the observations and researches of M. de Humboldt himself have established the fact of "a wonderful uniformity and constancy of temperature over spaces of many thousand square miles." It is here, therefore, that observations directed to this object can be made to the greatest advantage, and least exposed to the influence of casual and temporary disturbance. We know of no class of observations deserving more the attention of voyagers; and the more so, as the recent results of Mr. Caldecott respecting the temperature of the soil at considerable depths in India, have brought into evidence enormous differ-

ences, amounting to 6° between the *mean temperatures* of the earth and air at the same spot. Such might indeed have been expected on a careful consideration as to the different agencies of wind and rain on the one hand, and solar and nocturnal radiation on the other, in determining the respective averages, but they stand in striking contradiction to the generally received opinion of the necessary equality between the two means in question. It ought to be remarked, that M. de Humboldt, when stating this opinion, (p. 165, Tr.,) and the practical application of it recommended by Boussingault, expresses himself with hesitation, if not with doubt on its subject.

The power of magnetism, and the polarity of the magnetic needle, appear to have been known to the Chinese from the most remote antiquity. Extracted from the annals of See-ma-thsian, a Chinese historian cotemporary with the destruction of the Bactrian empire by Mithridates I., we find the following extraordinary relation. "The emperor Tehing-wang (1110 years before our era) presented to the ambassadors of Tong-king and Cochin China, who dreaded the loss of their way back to their own country, five magnetic cars, which pointed out the south by means of the moving arm of a little figure covered with a vest of feathers." To each of these cars, too, a odometer, marking the distances traversed by strokes on a bell, was attached, so as to establish a complete dead reckoning. (Humboldt, *Asie Centrale*, xli.; *Kosmos*, 171.) Such inventions, we cannot but observe, are not the creation of a few years, or a few generations. They presuppose long centuries of previous civilization, and that too "at an epoch cotemporary with Codrus and the return of the Heracles to the Peloponnesus"—the obscure dawn of European history! Even the declination of the needle, or its deviation from the true meridian, was known to this extraordinary people at the epoch in question.

Two views of terrestrial magnetism may be taken: The one is that which makes the earth itself, or a large portion of the substance of it, intrinsically magnetic in that sense in which a loadstone is so. This view (which is at all events general, and but for the secular variations of the magnetic curves, would be even now perhaps the best which could be taken,) is vindicated by M. de Humboldt to our admirable countryman Gilbert, whose ideas were, in all physical matters, far in advance of his age (note 142.) It was the knowledge of these variations which led Halley to the formation of his wild as well as inadequate theory of an internal globe revolving within the external shell of the earth. If the mass of the globe be magnetic in the sense of the loadstone, it is scarcely conceivable that the local distribution of magnetic power on its surface should be otherwise than permanent. That it is not so—that the magnetic curves, one and all, are in a continual state of slow but regular change, *sweeping round upon the two hemispheres in contrary directions*, (by which very act their forms are un-

dergoing continual modification,) we cannot help receiving as an indication that the seat of the earth's magnetism, if not entirely atmospheric, is at least so far superficial as to be subject to a large amount of external influence; seeing that they bear relation neither to any fixed lines in the globe itself on the one hand, nor to any determinate directions in external space on the other. The explanation of these secular variations is perhaps the obscurest problem which the "*Physique du Globe*" has yet offered for solution; and its solution, when known, cannot fail to carry with it the explanation of every other part of the phenomena.

Meanwhile it is certain that the phenomena of the magnetic needle, and its direction at each point of the surface, may, to a certain extent, be imitated on an artificial globe, by passing round it a the surface a due system of electro-magnetic currents. This was actually done by the late Professor Barlow. To a slowly and *secularly variable* system of electric currents, therefore, whether atmospheric or terrestrial, all probability refers us as the cause of the earth's magnetism. And here we are brought to a stand, not only by the very imperfect state of our knowledge in respect of atmospheric electricity, of all the branches of meteorology the least advanced; but also by our ignorance of the actual forms of the magnetic curves over many and extensive regions of the earth, to say nothing of their secular changes. This blank area, however, is happily diminishing rapidly under the pressure of surveys set on foot in pursuance of that noble plan of coöperative magnetic research which (thanks in the first instance to M. de Humboldt's powerful recommendation) has been adopted and acted on by our own and other governments upon a scale and with a sequence and energy to which no age has furnished a parallel. Within the interval, short of ten years, since the adoption of this system, the whole area of the Antarctic Ocean has been added to the domain of exact magnetic knowledge by the expedition under Sir James C. Ross, and by the subsequent survey of Lieutenants Moore and Clerk. British North America has become in like manner known ground by the survey of Lieutenant Lefroy, to which has been, or is in the course of being, added, that of the United States by Locke, Loomis, Bache, and other able and indefatigable observers. The expedition of Sir John Franklin, speedily, we trust, to return crowned with merited success, taken in conjunction with the survey of Hudson Bay, accomplished in the course of last summer by Lieutenant Moore, will complete our knowledge of the northern coast, and give to the continent of North America its due significance on the magnetic chart of the globe. Nor are these the whole, or anything like the whole, of the acquisitions recently made and still making in this direction, which, however, our limits will not permit us further to dilate on, or to give their merited tribute of applause to the indefatigable exertions of the able editor of the work before us, in deducing from the vast mass of observations thus continu-

ally pouring in, the true forms of the magnetic curves, and in particular of the isodynamic lines and ovals which, although the last be received into the list of magnetic elements, have proved the most interesting and important of any. The service thus rendered to magnetic science, it is in fact impossible to overappreciate.

Whatever idea we may form of the greater and more regular magnetic system of our globe, there can hardly remain a doubt as to the reference of the diurnal and annual periodic fluctuations of the magnetic elements to electric currents in the earth or atmosphere caused by solar excitement. Nor can there be any hesitation in referring to sudden and violent disturbances of electrical equilibrium, from whatever cause arising, those mysterious phenomena to which M. de Humboldt (the first to observe, or at least strongly to draw attention to them) has given the expressive name of magnetic storms, and in which the needle is agitated simultaneously over vast regions, whole continents, nay, even in some cases, *over the whole surface of the globe*. Of these the most remarkable on record is that of the 24th and 25th of September, 1841, which was observed at Toronto, in Canada, at Prague, at the Cape of Good Hope, at Van Diemen's Land, and at Macao. And here we cannot omit to notice the very remarkable coincidence of date between this and a great and extraordinary disturbance, which has quite recently been observed at Toronto, and of which the account by Lieutenant Lefroy is before us. The range of the needle, in respect of horizontal direction, on this occasion exceeded 4° , and the fluctuation in respect of horizontal intensity surpassed a *twentieth part of its total amount*. Now this disturbance (which was observed at Greenwich, though to not quite so great an extent) also took place on the 24th of September! A coincidence of this kind, should it be repeated, like that of the meteoric showers, would lead us irresistibly, and as an *instantia lucifera*, to look outwards, into the planetary spaces, for the cause of these singular phenomena.

Intimately connected with these irregular magnetic disturbances, and characterized by M. de Humboldt as the final discharge which restores the magneto-electric equilibrium, wrought to a climax of tension during their continuance, is the aurora or polar light. Of one variety of this superb phenomenon, that which consists in luminous beams and dancing streamers, terminating in a corona round the place of the elevated magnetic pole, he gives a most picturesque and beautiful description. The other, rarer, and less vivid in its phases, but perhaps in some respects even more interesting; that which consists in quiet luminous masses, either insulated or forming more or less regular arches transverse to the magnetic meridian, and *drifting constantly with a slow and steady movement southward*, he passes in silence. In both we recognize, by many indications, the presence of matter in the higher regions of the atmosphere, rendered luminous by the passage of electricity,

but differing in the two cases in the mode of its arrangement, and perhaps, too, in elevation; the arrangement in the former being in lines parallel to the dipping needle; in the other sometimes in amorphous masses, at others with a strong tendency to a transverse position. Is it possible that the distinction between the magnetic and diamagnetic forms of matter, brought to light by Faraday's late researches, may play a part in these arrangements?

The height of the auroral phenomena has been a subject of very varying estimation, and if we allow that, as M. de Humboldt expresses it, "every observer sees his own aurora as certainly as he sees his own rainbow," it must be evident that no parallaxic mode of determining its height is practicable. This, however, applies only to the first of the above-mentioned species of aurora, where, from the number and rapid coruscations of the streamers, no one can be individualized and definitely fixed. The luminous masses and transverse arcs of the other variety have assuredly an optical reality—are *objects*, and capable of being seen in their true geometrical places by any number of spectators at once. It is impossible, in short, that a body of light, steady enough to be definitely referred by one observer to one given direction in space, and by another to another at the same instant, should not have an objective locality. The arcs of October 17, 1819, and March 29, 1826, whose heights, as calculated by Dalton from very positive data, appear to have been nearly equal, (100—110 miles,) were certainly in this predicament; nor do we consider his conclusions as at all shaken by the objections advanced against them by Dr. Farquharson. On the other hand, M. de Humboldt appears disposed to doubt the reality of auroral *streamers* having been seen below the clouds; but on this head the observations of the last named excellent observer on the aurora of February 24, 1842, are so positive and circumstantial, as to leave no room for doubt. The crackling or hissing sound, reported to accompany their displays in high latitudes, he considers as altogether apocryphal. It is not among the least puzzling features of auroral phenomena, that although so intensely *magneto-electric as actually to interfere with the free transmission of messages along the electric telegraph*, experiments made during their continuance with very sensitive electrometers have hitherto given only negative results, since, during the finest auroas, no change in the electric tension of the atmosphere has been detected. (Kosmos, 186, Tr.)

On the subject of earthquakes and volcanoes, those great manifestations of internal telluric activity, there is probably no geologist now living who can speak so largely from personal knowledge as M. de Humboldt—who has had such opportunities of studying their phenomena in that region of the globe where they are habitually developed on the grandest and most terrific scale, as an eyewitness, or by diligent and immediate inquiry on spots the recent scenes of some of the greatest catastrophes on record. The tremendous convul-

sions which, in 1797, destroyed Riobamba, with the loss of between 30 and 40,000 lives in a few minutes, with "a sudden and mine-like explosion, a vertical action from below upwards," which hurled the corpses of many of the unfortunate sufferers several hundred feet in height on a neighboring mountain, and across a river, took place only three years before his arrival in Quito, the city lying still in ruins, and every particular, of course, vividly fresh in the recollection of the survivors. The catastrophe which destroyed Cumana took place in the same year. The personal narrative of his travels has made us familiar with the volcanoes of Quito, Mexico, and Chili, and given to the names of Cotopaxi, Pichincha, Tunguragua, and Jorullo, a terrible, yet fascinating, celebrity. With his extraordinary account of the last-named volcano, with its Malpais and Hornitos, there are probably few of our readers unacquainted.

We shall not enter here into any of the speculations current among geologists which have for their object to render an account of the ultimate origin of earthquakes, and the immediate seat of their first impulse. It is to their propagation along the superficial strata, and especially with the mode in which that propagation is dynamically effected, that inquiry can be most usefully, because most effectively, directed. Every one, indeed, is agreed that it is in some sense undulatory; but probably no two geologists have hitherto exactly agreed as to the sense in which that term is to be taken; whether, for instance, the undulation be analogous to that of a fluid surface, or of a stretched sheet, or, lastly, to that by which waves are propagated through elastic media in the conveyance of sound and light, viz., not by lateral tension or by gravity, but by the direct elastic action of the particles on each other. It is here that experience furnishes us with an unequivocal indication in the recorded velocity of their propagation, estimated by M. de Humboldt at twenty-eight geographical miles per minute, which, however, is probably underrated, and which, at any rate, exceeds double that of sound; a velocity, as Mr. Mallet has justly remarked, in a paper read before the Royal Irish Academy in 1846, incompatible with any imaginable mode of propagation but that last alluded to. This is, accordingly, the view of the subject which Mr. Mallet adopts, and which, on the whole, appears to render a clear, intelligible account of many of the apparently bizarre and capricious phenomena with which the records of these events abound; such, for example, as the reversal of the stones of a pavement, and the twisted obelisks of Stephano del Bosco by the Calabrian earthquake; the confusion of fields and boundaries; and the strangely irregular intermixture of lines of violent action with others of comparative repose, resulting from nodal intersections and interferences of shocks arriving at the same point from different origins or by routes of different lengths. Such interferences, we must observe, are expressly indicated by M. Humboldt, (p. 192,) as resulting from intersecting

earthquake waves, "as in intersecting waves of sound;" adding, moreover—

"The magnitude of the waves propagated in the crust of the earth will be increased at the surface, according to the general law of mechanics by which vibrations transmitted in elastic bodies have a tendency to detach the superficial strata."

What may be the mechanical law here alluded to we know not. Probably the scaling off of brittle coatings from hard bodies by a blow. But we cannot help supposing the true mode of earthquake propagation (by waves of elastic compression) to have been apprehended with very considerable distinctness in penning this passage, though not seized and worked out, as it might have been, into a regular theory. We will only notice, in further illustration of the explanatory power of this mode of conceiving the matter, the facility with which the singular effect of vorticose motion is accounted for by the crossing of two waves of horizontal vibration, which, as in the theory of the circular polarization of light, compound, at their point of intersection, a rotary movement.

That a theory so simple, and, we may add, so obvious, has not been earlier propounded and received, can only be accounted for by the vast scale of the phenomena and the amplitude of the earthquake wave, which causes the wave itself, as "an advancing form," to escape notice, and the molecular motions only by which it is propagated to be perceived. For in this theory we are to bear in mind that man and his works are but, in respect of these gigantic movements, what the sand spread by Chladni on one of his vibrating plates is to the sonorous vibration it furnishes the means of examining.

What the auroral discharge is to the "magnetic storm," in M. de Humboldt's view of that phenomenon, and, as appears to us, with far more correctness, the volcano in eruption is to the earthquake—the relief of tension and the restoration of equilibrium. Innumerable instances of this connection might be adduced, but the subject is rather trite, and our limits begin to warn us that we have yet a wide extent of ground to travel over, and we must therefore pass over, not without regret, the evidences of diminishing volcanic action afforded by the phenomena of Solfaterras and hot springs, as well as those of interior heat generally, as manifested in the continued ejection of carburetted hydrogen, of which See-tchuan, in China, and Fredonia, in New York, offer the most striking examples; as well as those of carbonic acid which, in many parts of Germany and on the Rhine, "indicate the last remains of volcanic activity in and near its ancient foci in an earlier state of the globe."

In the "Geological Description of the Earth's Crust," two distinct classifications or arrangements are followed, which, perhaps, we can hardly better characterize in contrast with each other than as *genetic* and *historical*. The former is in conso-

nance with that view of superposed causalities which we have taken of geological phenomena in general. It refers itself to the presumed origin, and not to the historical order of the matters classified. This would naturally divide the rocks of which the earth's crust is composed into two orders: *endogenous*, having their origin from the internal activity of the earth; and *exogenous*, arising from the degradation of continents by external force, and their reconstruction in new localities by aqueous deposition. But these causes being in perpetual and simultaneous action, it becomes necessary to admit two other members into this general classification, in whose formation as they exist at present both orders of genetic cause have had a share; those namely, first, in which deposited rocks have been altered in texture, density, and mineralogical characters by subterranean heat either slowly invading them by conduction from below, or suddenly applied by eruptive energy forcing melted matter into contact with them, and introducing new materials into their composition by sublimation, (as in the view taken by Von Buch of the dolomitic limestone of the Tyrol.) The second member of the series resulting from the complex action comprises rocks constructed by recementation of fragments and pulverized matter, whether produced by the violence of eruptive agency, or by the slower process of water washing and the action of torrents or debacles. Thus we have at length a fourfold division of the materials of the earth's exterior, into erupted, sedimentary, metamorphic, and conglomerate rocks.

In subdividing the erupted rocks little importance would attach to oryctognostic character, except in so far as it can be connected with indications of the depth from which they may have been erupted, the scale upon which their expulsion from the bosom of the earth may have been effected, and the state of fluidity at which they may have arrived at the surface. These give rise to a system of characters partly mineralogical and partly geological, in which granite and sienite stand at the lower end of the scale, and basalt and superficial lavas at the upper, while porphyries, greenstones, serpentine, hypersthene rock, and trachyte, fill up the intermediate stages. Some particulars, given by M. de Humboldt, respecting the superposition of granite, will be found interesting, when we recollect at how comparatively late a period the idea of overlying granite was considered almost to amount to a contradiction in terms:—

"In the valley of the Irtysh, between Buchtarminsk and Uskamenogorsk, granite covers transition slate for a space of four miles, and penetrates it from above downwards in narrow branching veins, having wedge-shaped terminations. * * * As granite covers argillaceous schists in Siberia and in the Departement de Finisterre, (Ile de Mihau,) so does it cover oolitic limestone in the mountains of Oisons, (Fermonts,) and sienite and chalk in Saxony near Weinböhla."

To these instances we may add the valley of Lavis, in the Tyrol, near Predazzo, where it over-

lies dolomite. The true reason for the rarity of these granite superpositions is doubtless to be sought in the very slight degree of fluidity of the upper portions of the unheaved masses, and their vast thickness, which permits but rare opportunities for escape of the more liquid matter from below. A beautiful granite dyke is seen intersecting granite perfectly similar, and no doubt nearly coterminous, on the summit of the Paarl Rock near Stellenbosch in South Africa, as if the fissured rock had been recemented in the very act of rising by an upward injection, which in cooling has arranged itself in parallel layers, nearly at right-angles to the general direction of the vein.

Sedimentary rocks are necessarily classified according to their geological order of superposition, and are made to consist of—1. Argillaceous schists of the transition series, including the Silurian and Devonian formations; 2. Carboniferous deposits; 3. Limestones; 4. Travertin; 5. Infusorial masses. From this series M. de Humboldt excludes all purely mechanical deposits of sand and detritus, regarding them as in strictness belonging to the conglomerate division. The abundance of limestones in the latter portions of this series he considers as a result of the decreasing heat of the superficial waters allowing of their absorbing carbonic acid from an atmosphere overcharged with that element.*

The process of metamorphism (a term first introduced into geology, we believe, by Lyell) is very obscure. That electrical action is often concerned in it, we can hardly doubt. The portion of M. de Humboldt's work which treats of it is full of interest, but we cannot afford room for remark or extract, further than to notice the singular difficulties which beset any geological account of the vast beds of pure quartz, from *seven to eight thousand feet in thickness*, characteristic of the Andes of South America. In the older Plutonic theories, indeed, these would be easily dealt with. Modern speculation, however, is scarcely hardy enough to draw so largely on internal heat as would be necessary to fuse and erupt such masses of so intractable a substance. Their consolidation from sandy deposits by partial fusion under the transforming influence of adjacent rocks (as Murchison proposes to account for the phenomena of the Caradoc sandstones) is subject to hardly less difficulties. The chemistry of long-continued heat under pressure, the production of artificial simple minerals, and the imitation of metamorphic changes on rocky substances, by contact with heated matter, open a field of inquiry deserving of more cultivation than it has hitherto obtained.

The same reason which renders it necessary to limit our remarks on this portion of the subject of geology, compels us to pass over entirely the view which M. de Humboldt takes of the historical

* The exceeding readiness with which newly precipitated carbonate of lime subsides in warm water, compared with what takes place in cold, especially when certain saline substances are present, is a chemical fact which may have some bearing on this point.

department of that science, and the order of succession of the forms of animal and vegetable life which modern geological research has revealed to us as the denizens of our planet in the previous stages of its existence. We should do so with extreme regret, (since the sketch which is given, though in the utmost degree condensed, is arranged in a very luminous and masterly manner,) were it not that, although ranking high as a geologist, his own personal contributions to that science belong rather to the lithological than to its palæontological department; and were it not too that an extensive knowledge of the main features of these grand disclosures is very generally diffused in this country. We shall, prefer, therefore, to devote what room remains to us to those subsequent portions of his work, where the light which he directs upon them is mingled with many and bright rays emanating immediately from himself.

Among the leading features of that part of the general contemplation of nature which relates to the PHYSICAL GEOGRAPHY of our globe in its actual state, we must regard, first, the quantity of land raised above the water; next, the configuration of each great continental mass in horizontal extension and vertical elevation. That all, or nearly all, the existing land has been so raised, M. de Humboldt regards as an established truth, and considers a considerable part of the height of all the present continents to be due to "the eruption of the quartzose porphyry, which overthrew with violence the first great terrestrial Flora, the material of our coal beds." Previous to this, the portion supporting land vegetation was exclusively insular; nor was it until the epoch of the older tertiary formations that the great continents approached to their present form and extent.

The ratio of sea to dry land is stated at 270 or 280 to 100, or in round numbers as about 3 to 1, the islands amounting to one twenty-third of the continental masses. As regards the general distribution of sea and land, M. de Humboldt confines himself to observing that the northern hemisphere contains nearly three times as much land as the southern, and the eastern (from the meridian of Teneriffe) far more than the western. This mode of statement, however, conveys a much less lively and distinct impression of the law of distribution than the division (suggested by Colson, *Phil. Trans.* vol. xxxix., p. 210) of the globe into two hemispheres, a terrene and an aqueous one, the former having Great Britain, the latter her antipodes, for its vertex.* In fact, if we endeavor to include the maximum of land in one hemisphere, and that of water in the other, according to our present knowledge of the globe, we shall find as the centre of the terrene hemisphere a point in the south of England somewhat eastward of Falmouth. With exception of the tapering termination of South America, the land in the other is wholly insular, and were it not for New Holland, its amount would be quite insignificant. As protu-

berance above the sea level indicates comparative levity, are we not thence entitled to conclude the non-coincidence of the centre of gravity of our globe with its centre of figure, the denser portion being situate beneath the South Pacific?

On the general form of the land we find some striking remarks. The southern terminations of the great continental masses affect the pyramidal form, which is repeated on a smaller scale in the peninsulas of India and Arabia, &c., while generally, prolonged appendages, both to the northward and southward, affect a meridional direction. Eastern and western coasts, we may add, are for the most part rounded, though the eastern occasionally present instances of angular forms, as Brazil and Labrador in America, Azania (Adel) in Africa, Oman in southern and Tschutschki in northern Asia. The major axis of the Asiatic continent (to which Europe is a peninsula) is at right angles to that of the American; though perhaps South America is rather to be considered as analogous to Africa, not only from its remarkable similarity of general form, but also from the singular thread-like adhesion of each to its neighboring northern mass. Were these threads broken, every commercial relation, and almost every climate of the civilized world, would undergo the most remarkable changes.

"The general direction of the land of Europe is from south-west to north-east, and is at right angles to the direction of the great fissures, which is from north-west to south-east, extending from the mouths of the Rhine and the Elbe, through the Adriatic and Red Sea, and the mountain system of Puschikoh in Luristan, and terminating in the Indian Ocean. This rectangular intersection of the continent in the direction of its principal extent, has powerfully influenced the commercial relations of Europe with Asia and the north of Africa, as well as the progress of civilization on the formerly more flourishing shores of the Mediterranean."

M. de Humboldt has been at great pains to arrive at a knowledge of the mean elevations of the chief continental masses, above the sea-level, which (in English feet) he states as follows. For Europe 671 feet, North America 748, Asia 1132, South America 1151. For Africa we have no sufficient data. "Laplace's estimation of 3078 feet (French) as the mean height of continents, is at least three times too great. The illustrious geometer was conducted to this erroneous result by hypothesis as to the mean depth of the sea," (note 360.) The chain of the Pyrenees, if equably spread over France, would raise its surface according to his estimate 115, and the Alps over Europe 21.3 English feet. The former of these estimates certainly gives us a greater idea of the magnitude of the natural barrier between France and Spain, than any ordinary exaggeration of language or poetical description would do. M. de Humboldt closes this part of his subject with the following comfortable reflection:—

"Since Mont Blanc and Monte Rosa, Sorata, Illimani, and Chimborazo, the colossal summits of the Alps and the Andes, are considered to be among

* See a chart of the two hemispheres on the horizon of London. Hughes. London, 1839.

the most recent elevations, we are by no means at liberty to assume that the upheaving forces have been subject to progressive diminution. On the contrary, all geological phenomena indicate alternate periods of activity and repose. The quiet which we now enjoy is only apparent; the tremblings which still shake the surface, in every latitude and in every species of rock—the progressive elevation of Sweden, and the appearance of new islands of eruption—are far from giving us reason to suppose that our planet has reached a period of final repose."

The phenomena of the ocean may be considered with reference to its depth, temperature, density, and to its motions as agitated by waves, tides, and currents. With respect to its depth, except near shores and in frequented tracks, we know almost nothing. Theoretical considerations indicate a mean depth of "a small fraction of the ellipticity of the earth," which can hardly be interpreted at more than four or five miles. Ross sounded (in $15^{\circ} 3'$ south, $23^{\circ} 14'$ west) without finding bottom at 27,600 feet, (about five miles and a quarter,) which is the greatest depth yet attained.

As regards the temperature of the ocean, the observations of Kotzebue in his voyage round the world appear first to have indicated, those of Beechey in his voyage to the Pacific to have (so far as they go) supported, and those of Sir James C. Ross in his recent Antarctic voyage to have established almost beyond a doubt, the extraordinary fact that the deep sea water, below a certain level determined by the latitude, is of one invariable temperature throughout the globe, and that temperature a very low one, the calculations of Lenz, founded on Kotzebue's results, giving 36° Fahr., and those of Ross $39^{\circ}.5$. The depth at which this temperature is attained, according to the latter authority, is 7200 feet at the equator, diminishing to $56^{\circ} 26'$ south latitude where it attains the surface, and the sea is of equable temperature at all depths. Thence again the upper surface of this uniform substratum descends as the latitude increases, and at 70° has already attained a depth of 4500 feet. Similar phenomena would appear to occur in proceeding from the equator northward, the circle of constant temperature being repeated nearly in the same latitude. Thus the ocean is divided into three great regions, two polar basins in which the surface temperature is below, and one medial zone in which it is above $39^{\circ}.5$, being 80° at the equator, and at the poles of course the freezing point of sea water. It will be very readily understood that in this statement there is nothing repugnant to hydrostatical laws, the compressibility of water insuring an increase of density in descending within much wider limits of temperature than here contemplated.

The physical consequences of this great law, should it be found completely verified by further research, are in the last degree important. One of them, noticed by Ross, is, "that the internal heat of the earth exercises no influence upon the mean temperature of the ocean," a conclusion not very easy to reconcile with the theory of central heat itself, or at least with its regular distribution.

Another is the complete destruction of the notion of submarine currents setting from the poles towards the equator, caused by the subsidence of cold water in high latitudes. On the contrary, the actual disposition of things would necessitate a constant superficial flow of cold water from the poles towards the equator, and of warm from the equator towards the poles, in abatement of the polar and equatorial excesses of level;—a mingling of these overflows on or about the parallels of latitude where the mean temperature is found; and their descent there in maintenance of a continual, but merely superficial triple system of circulation. If any deep-sea currents could arise at all from such a state of temperature, it must be in consequence of the descent of water rendered saltier by evaporation at the tropics, unless indeed (as is conceivable) the circulation of salt as well as of heat should be also confined to the superficial strata. Enough, however, of these considerations, which are leading us astray from our guide.

M. de Humboldt passes very cursorily over the vast and complex subject of the tides, into the somewhat flagging interest of which a fresh vitality has been of late years infused by the striking researches of Whewell into the laws of propagation of the tide wave, which he has taken up as a matter of inductive inquiry; thereby exchanging the slow and arduous struggle of the geometer with almost insuperable obstacles, for the animating pursuit of practical laws. The elaborate inquiries of Airy also into the combined theory and practice of tide observation, have added to this reviving interest, and their joint labors have made this part of the Newtonian doctrine once more an English subject, which it had long well nigh ceased to be. On the other hand, the great ocean currents resulting from the general set of the trade winds and the friction of the tide wave on the bed of the ocean, (adopting Weber's view of undulatory motion,) are described with much spirit. The great current of the gulf stream, to which we are indebted for the genial warmth of our south-western coast, is one result of this movement, and is too well known by the descriptions of all voyagers, and the elaborate researches of Rennell, to require notice here. Not so the counterpart of this current in the South Pacific, first brought into notice by M. de Humboldt in 1802. This current drifts the cold water of the South Seas along the western coast of South America, as far as the extreme north-westerly projection of that coast, where it is suddenly deflected outwards in a due west direction into the open ocean, and there ultimately lost. At this point its waters are nearly 24° Fahr. colder than those of the general surrounding ocean, and so sharply marked is its course, that a ship sailing northwards passes quite suddenly from cold into hot water.

As the scene of a wonderfully diversified and exuberant life, both vegetable and animal, but especially the latter, the ocean also claims our attention. To say nothing of those colossal forms which, divested by the buoyancy of the medium in

which they subsist, of the incumbrance of *weight*, are left free to exert the whole of their giant power to overcome its resistance, we find in the minuter forms of animal existence an unbounded field of admiring contemplation.

"The application of the microscope increases still further our impression of the profusion of organic life which pervades the recesses of the ocean, since throughout its mass we find animal existence, and at depths exceeding the height of our loftiest mountains the strata of water are alive with polychaetic worms, cycloidæ and ophrydinæ. Here swarm countless hosts of minute luminiferous animals, mammaria, crustacea, peridinea, and ciliated nereides, which, when attracted to the surface by peculiar conditions of weather, convert every wave into a crest of light. The abundance of these minute creatures, and of the animal matter supplied by their rapid decomposition is such that the sea-water itself becomes a nutritious fluid to many of the larger inhabitants of the ocean. If all this richness and variety of life"—

M. de Humboldt goes on to add, in that vein of thoughtful poesy in which he indulges in several parts of this work, and to which, in truth, it owes much of its charm,

"—containing some highly organized and beautiful forms, is well fitted to afford, not only an interesting study, but also a pleasing excitement to the fancy; the imagination is yet more deeply, I might say, more solemnly, moved by the impression of the boundless and immeasurable which every sea voyage affords. He who, awakened to the inward exercise of thought, delights to build up an inner world in his own spirit, fills the wide horizon of the open sea with the sublime idea of the infinite; his eye dwells especially on the distant line where air and water join, and where stars arise and set in ever renewed alternation. In such contemplations there mingles, as in all human joy, a breath of sadness and longing."

As the sea, no doubt, holds in solution some small proportion of every soluble body in nature, so, besides the two great chemical elements of which dry air consists, and its variable constituent of aqueous vapor, there is probably no vaporizable body of which the atmosphere does not contain some trace. And from what we know of the influential part played in the economy of nature by one or two of these subordinate constituents, we can hardly doubt that others, whose presence has not hitherto been actually detected by analysis, have functions of high importance assigned to them in that economy. On the carbonic acid which constitutes less than the two thousandth part of the atmosphere, all vegetation depends for its supply of carbon; and Liebig has shown that to the presence of ammonia, in far less proportion, the rain-water owes its fertilizing power. To the occasional production of ozone, the most powerfully bleaching and oxidating substance in nature, by electric discharges, though in proportion inconceivably minute, we probably owe the disinfection of the air from a variety of noxious miasmata, thus verifying by one of the most delicate results of scientific inquiry, the vulgar notion of the purifying agency of thunder storms.

Meteorology, however, has no concern with these minute chemical admixtures—the only distinction it recognizes is that of air and vapor, and this only because these form, in fact, two distinct, and to a great extent independent, atmospheres, subject each to its own peculiar laws, (and those laws widely different,) and each reacting on the other solely by mechanical impulse and resistance. In the movements and affections of these two atmospheres by the sun's heat, the one permanent in material and constant in quantity, the other in a continual state of renovation and destruction, we recognize, as in geology, the simultaneous agency of two distinct systems of causation, superposed and modifying each other's effects—but with this advantage on the side of meteorology, that their agency is limited to definite annual and diurnal cycles, corresponding to those of the supply of solar heat, rendering their study, so far, easier. Here also we have to deal with electricity as a third element, but we strongly incline to the opinion, that its agency as a meteorological *cause* is exceedingly limited, indeed that it may be altogether left out of the account as productive of any meteorological effect of importance on the great scale.

It is by no means, however, in its general connection as a science, that M. de Humboldt considers this vast and complex subject. The view which he takes of it regards only its final and practical bearings on climate as a part of physical geography, and that under very general heads, viz., the variation of atmospheric pressure, the climate distribution of heat, the humidity of the atmosphere, and its electric tension. Each of these heads will afford us room for a few remarks.

All those meteorological phenomena whose period is diurnal may be studied, as he very justly observes, in their greatest simplicity, and therefore to the greatest advantage, between the tropics and especially under the equator. For this there are two reasons, first, that the sun's meridian altitude varies but little throughout the year; and secondly, that the equatorial zone is symmetrically related to the two hemispheres. In particular the diurnal fluctuation of barometric pressure pursues a march so regular that we may infer the hour of the day from the height of the mercurial column, without an error, on the average, exceeding fifteen or seventeen minutes. "In the torrid zone of the new continent," he says, "I have found the regularity of this ebb and flow of the aerial ocean undisturbed either by storm, tempest, rain, or earthquake, both on the coasts and at elevations of nearly 13,000 feet above the sea." The total diurnal oscillation amounts, under the equator, to 0.117 in., diminishing gradually as the latitude increases. This fluctuation has usually been compared to the tides of the ocean, but has, in fact, no theoretical connection with it. It is a compound phenomenon arising from the superposition of two perfectly distinct diurnal oscillations, each going through its complete period in twenty-four hours; the one taking place in the aerial atmos-

phere, and arising from its alternate heating and cooling, which produce a flux and reflux over the point of observation; the other arising in the aqueous atmosphere by the alternate production and destruction of vapor by the heat of day and cold of night. The resolution of the hitherto puzzling part of this phenomenon, viz., its double diurnal wave into two single ones, following different laws, and non-coincident in their phases, does honor to the sagacity of Dove, followed up as it has since been by the laborious researches of Colonel Sabine, to whose discussion of this point (note 382) we particularly direct our readers' attention.

The gradual depression of the barometer in proceeding from tropical latitudes either way to the equator, was first noticed by M. de Humboldt himself. Its explanation is easy, viz., the continual efflux of heated air upwards from the equator towards the poles. Hence, by the effect of the earth's rotation on the currents setting in below to supply the void, arise the trade winds, and in the amount of this depression, which does not exceed two tenths of an inch, we have a measure of the motive power which originates these great currents. The connection of the trades with the monsoons, and the varying winds of higher latitudes, is beautifully placed in evidence by the law of rotation of the wind lately discovered by Dove, a conclusion following so simply and naturally from the very same principle on which Hally originally explained the constant easterly direction of the trades, (the difference of rotatory velocity on different terrestrial parallels,) that it is only astonishing it should so long have escaped notice. As regards the local distribution of barometric pressure, the most extraordinary fact which has yet appeared in meteorology is, perhaps, the general depression of the mercury to the enormous amount of an entire inch over the whole Antarctic Ocean, established by the late observations of Ross.

The chief elements of climate are heat and moisture; but it is neither on the extremes of heat or cold, moisture or dryness, experienced on rare occasions, that the character of a climate depends. Climatology is throughout a matter of averages, and is best studied and best understood by the graphical depiction of such averages, obtained by many years of careful observation according to a method proposed and carried out by M. de Humboldt himself, in 1807. In this system, all those points on the earth's surface which have equal mean annual temperatures are connected by a system of curves called *Isothermal*; those, again, in which the mean temperatures of the hottest summer months are alike, by another system of *Isothermal* curves; and those in which the mean winter temperatures agree, by a third, or *Isocheimönal* system.

The law of distribution of heat over the surface of the globe is best apprehended by the study of the first of these systems of curves, respecting which researches subsequent to those of M. de Humboldt have led to general and very remarkable

conclusions. In the northern hemisphere only, are the forms of the isothermal curves known with any degree of exactness. In this Sir D. Brewster places two points, or *poles of maximum cold*, on the 80th parallel of latitude, and in nearly opposite longitudes, (95° W. and 100° E.) of which the mean temperature is 34° Fahr., and about which as foci the isothermal lines form a system of spherical lemniscates, imitating in general form those beautiful curves exhibited by polarized light in biaxial crystals. The meridians of these poles pass almost diametrically through the main bodies of the American and Asiatic continents, while two other meridians nearly at right angles to them traverse the polar sea, running out along the north Atlantic down the west coasts of Europe on the one hand, and nearly through Behring's Straits into the Pacific on the other. These then are the meridians respectively of greatest cold and warmth, and it is impossible not to recognize in them the effect of extensive tracts of land in high latitudes in increasing, and of sea in diminishing the intensity of cold as we approach the pole. Kämtz's projections confirm this result, so far as the general form of the isothermic ovals is concerned, but place their foci in rather lower latitudes, the one near Chatankoi in the Samoiede country, the other nearly upon Barrow's Strait. The succession of these lines followed along their intersections with the east coast of America, as compared with the west coast of that continent and of Europe, places the mean climate of the whole of the former coast in striking and disadvantageous contrast with that of both the latter, and abundantly explains the early prevalent, though mistaken impression, of a general deficiency of genial warmth in the new world as compared with the old.

The influence of great tracts of land remote from sea coasts, owing, doubtless, to the greater clearness of sky arising from the defect of moisture, tends to exaggerate both the summer heat and the winter cold, but the latter in a higher degree than the former. Accordingly we find the isothermal curves in the interior of the great continents of the northern hemisphere affecting a greater convexity towards the north, and the isocheimönal less so as compared with the lines of mean temperature. The effect of this is to produce in those regions *extreme* or excessive climates in which violent summer heat is succeeded by intense winter cold. Of such, M. de Humboldt gives instances in Tobolsk, Barnaoul, and Irkutsk, in whose summers, for weeks together, the thermometer remains at 86° or 87° Fahr., while their winters exhibit the severe mean temperature of -0°·4 to +4°·0 of the same scale, or 40° lower than the mean winter temperature of London.

On the other hand, the proximity of the sea for many and obvious reasons tends to mitigate and equalize the fluctuations of temperature, and where this tendency, as on the west coast of Ireland and the south-west coast of England, conspires with a generally favorable position as regards the isothermic curves, an approach to perpetual spring pre-

vails. "In the north-western part of Ireland, in lat. $54^{\circ} 46'$, under the same parallel with Konigsberg," (where even our holly cannot survive,) "the myrtle flourishes as luxuriantly as in Portugal." The winter mean temperature of Dublin is actually $3^{\circ} 6'$ higher than that of Milan.

The effect of such local peculiarities is, of course, strongly marked in vegetation, which M. de Humboldt exemplifies in the growth of the grape, and the production of *drinkable* wine. This condition, he observes, necessitates a mean summer temperature of at least $64^{\circ} 4$ Fahr., a mean annual temperature not below $49^{\circ} 2$, and a mean winter one above $32^{\circ} 8$. These conditions are all amply satisfied and exceeded along our southern coasts; so that it is clear that not merely drinkable, but respectable, wine might be grown there: and if, at very early periods of our history, we find that such was the practice, we may observe that, owing to the diminution of the obliquity of the ecliptic, we are placed, so far as summer temperature is concerned, in a *somewhat* less favorable situation than at the epoch of the Roman occupation. The difference amounts to $13'$, by which the summer sun comes less northward than at the epoch alluded to.

"I have, in no part of the earth, not even in the Canary Islands, in Spain, or in the south of France, seen more magnificent fruit, especially grapes, than at Astrachan. With a mean annual temperature of 48° , the mean summer temperature rises to $70^{\circ} 2$, which is that of Bordeaux; while not only there, but still more to the south, at Kislar, (in the latitude of Avignon and Rimini,) the thermometer sometimes falls, in winter, to -13° or -22° Fahr."

Ascent into a higher region of the atmosphere has the same depressing effect on temperature with increase of latitude. The fact is universally known—the cause, perhaps, less familiarly so. Were there no atmosphere, a thermometer freely exposed (at sunset) to the heating influence of the earth's radiation, and the cooling power of its own into space, would indicate (if the dip of the horizon be neglected) a medium temperature between that of the celestial spaces (-132°) and that of the earth's surface below it (82° at the equator, -34° in the Polar Sea.) Under the equator, then, it would stand, on the average, at -25° , and in the Polar Sea at -68° . The presence of the atmosphere tends to prevent the thermometer so exposed from attaining these extreme low temperatures; first, by imparting heat by conduction; secondly, by impeding radiation outwards. Both these causes are more effective in proportion to the density of the air in contact with the thermometer, which is, therefore, always maintained at a degree higher than those named, and approaching more nearly to the temperature of the soil, the lower the level of the station.

The habitual dryness of the upper regions of the atmosphere is another general fact, the causes of which are not usually neatly conceived. It is partly apparent, partly real. In proportion to the rarity of the air about any moist surface, evapora-

tion is freer, the drying process goes on more rapidly, and superfluous moisture is more speedily exhaled. Mere facility of exhalation, however, is not to be construed as any proof of extreme deficiency of moisture in the air. On the other hand, however, such deficiency really and necessarily exists. If there were never any rain, snow, or dew, the aqueous atmosphere would be coextensive with the aerial one, and each stratum of the latter in a state of exact saturation. Every act of precipitation (no matter how produced) unsettles this state of things, and withdraws from the total mass of the air some portion of its entire amount of vapor. As such precipitations, therefore, are constantly going on in some place or other, the atmosphere, as a mass, though incumbent on a wet and evaporating surface, is necessarily always deficient in moisture. And for the very same reason, every superior stratum is relatively deficient in comparison with that immediately beneath it, from which its supply is derived. In point of ultimate causation, there is a constant drain upon the aqueous contents of the atmosphere, arising from changes of temperature. This drain extends to all its strata; but while the lower renew their losses from a surface hygrometrically *wet*, the upper draw their supply intermediately from sources more and more deficient in moisture.

In intimate connection with these general relations stands the striking and picturesque phenomenon of perpetual snow on mountain summits, and the causes which determine the altitude of its inferior limit in different regions. The snow-line necessarily descends to the level of the sea, in latitudes where the mean temperature is beneath the freezing point, and rises, generally speaking, as we approach the equator, where, in South America, or Cotopaxi and Chimborazo, it attains a level not inferior to that of the summit of Mont Blanc. On the southern declivity of the Himalayas, in latitude 31° , its level may be stated at 13,000 feet, while yet, on their northern slopes, under the influence of radiation from the high lands of Thibet, (11,500 feet in mean elevation,) it attains a height of 16,600 feet. Such, indeed, is the influence of local circumstances, and especially of the extreme dryness which prevails aloft in the southern prolongation of the chain of the Andes, that in the western or maritime part of that chain, in lat. 18° S., the snow-line is found nearly 2700 feet higher than under the equator; and even so far as $32\frac{1}{2}^{\circ}$ south, the volcano of Aconcagua, 1400 feet higher than Chimborazo, has, on one occasion, been seen *entirely free from snow, by the mere effect of evaporation*, being not at the time in a state of eruption. (Kosm. Tr., p. 329.)

According to the alternation of the seasons, the lower line of *actual* snow oscillates between limits more or less extensive, according to the difference of the summer and winter temperatures at the place; but besides this annual oscillation, successions, which appear to us casual, of cold, warm, dry, and wet seasons, winds, &c., give rise to fluctuations in the amount of accumulated snow,

which manifest themselves in the slow alternate prolongation and recess of glaciers, a subject which M. de Humboldt passes over with slighter notice than we should have expected. The arduous and indefatigable researches of Professor Forbes, one of the greatest, if not the very greatest, of Alpine travellers since Saussure, and his ingenious theory of glacier motion, have heightened to an extraordinary degree the interest of this branch of terrestrial physics, and might, we think, have secured his name a place beside those of Vernetz, Charpentier, and Agassiz, in the briefest possible mention of the subject.

The electricity of the atmosphere is a subject too inconsecutively studied, and too little understood, to admit of any distinct, general, and positive conclusions being drawn respecting it. We have ventured to hazard an opinion that the part it plays in phenomena, properly called meteorological, is rather that of an effect than a cause; whatever influence its development may have on organic life in stimulating the nerves and promoting the circulation of the juices (both we apprehend, much overrated.) Our limits, however, forbid us to assign the grounds for this opinion, and the mention of organic life reminds us that we have yet another field to traverse in M. de Humboldt's guidance. But here too we shall imitate his own brevity; confining himself as he does to the general influence of temperature and climate on the distribution of organic forms, to the physiognomy of different countries imparted by the greater or less predominance of those families of plants which are called "social," and to the similar influence of elevation above the sea and increase of latitude; and waiving, as it would seem designedly and of purpose, all mention of a subject the most prominent and the most interesting in natural history. We allude to the local distribution of genera and species, not as affected simply by diversity of climate and soil, but by locality *as such*, according to laws which almost seem to have had reference not so much to the mere fitness of this or that climate, &c., for this or that species, as to some more general object, such as that of superinducing the utmost possible diversity of organism and assemblages of organized beings on the face of material creation. This forbearance is the more disappointing, because it is precisely from M. de Humboldt himself that the first impulse of philosophical speculation and inquiry in this direction was given, and that there is, therefore, no one to whom we should more naturally look up for large and general views on the subject, or for satisfactory impressions as to the aspect in which the facts actually present themselves to those who alone are fully competent to judge of them. In stating these great facts, it is by no means necessary to go into questions of origin (which he very properly declines to do.) There may or there may not have been local centres of creation, whence, in all geological epochs, species have spread themselves. But the matter of fact, the observed *laws of collocation*, strongly marked as they are, appear of paramount

importance, and constitute the most salient features of the geography of plants and animals. "Each hemisphere," says M. de Humboldt in his *Personal Narrative*, "produces plants of different species; and it is not by the diversity of climates that we can attempt to explain why equinoctial Africa has no Laurineæ and the New World no heaths; why the Calceolarieæ are found only in the southern hemisphere; why the birds of the continent of India glow with less splendid colors than those in the hot parts of America; finally, why the Tiger is peculiar to Asia, and the Ornithorhyncus to New Holland."

The total diversity of all the plants and animals of New Holland from those of all other countries; the complete separation of the Old from the New World in their representation of natural families, not only in their living, but in many of their fossil productions, is part only of a general system of regional repartition which pervades the whole scheme of organic life: a *fact* of the first magnitude, whatever be the speculative aspect in which it may be regarded.

Man, "subject in a less degree than plants or animals to the circumstances of soil and to meteorological conditions, and escaping from the control of natural influences by the activity of mind and the progressive advancement of intelligence," forms everywhere an essential part of the life which animates the globe. In considering the great questions which ethnology presents, M. de Humboldt avows his conviction of the superior weight attributable to those arguments which support, over those which combat a community of origin and a gradual branching forth into established varieties or races. He observes, however, that,

"As in the vegetable kingdom and in the natural history of birds and fishes, an arrangement into many small families proceeds on surer grounds than one which unites them into a few sections embracing large masses; so also, in the determination of races, it appears preferable to establish smaller families of nations. In the opposite mode of proceeding, whether we adopt the old classification of Blumenbach into *five* races, * * * or that of Prichard into *seven* * * * it is impossible to recognize in the groups thus formed any true typical distinction—any general and consistent natural principle. The extremes of form and color are separated indeed, but without regard to nations, which cannot be made to arrange themselves under any of the above-named classes."

Language is the main clue we have to guide us through the labyrinths of ethnology; but it is one which must be followed with caution, and with all the light which history can throw upon its application.

"Subjection to a foreign yoke, long association, the influence of a foreign religion, a mixture of races, even when comprising only a small number of the more powerful and the more civilized immigrating race, have produced in both continents similarly recurring phenomena; viz., in one and the same race two or more entirely different families of languages; and in nations differing widely in origin, idioms belonging to the same linguistic stock."

Where history fails, however, as is the case with the barbarous nations of the New World, and those, which in other regions are fast disappearing before European encroachments, language, physical resemblance, and similarity of customs (when not traceable to general principles of human nature) are all the guides which are left to us in tracing the affiliation of races. That aiding and warning light withdrawn, it behoves us to be all the more scrupulously careful in collecting and preserving unimpaired and undistorted whatever vestiges of human language still subsist. And here we must enter our protest, we fear an unavailing one, against the supineness which suffers those invaluable monuments, the unwritten languages of the earth, to perish with a rapidity yearly increasing, without one rational and well concerted effort to save them in the only mode in which it can be done effectually, viz., by reducing them to writing *according to their exact native pronunciation* through the medium of a thoroughly well considered and digested Phonetic alphabet. About sixty well chosen, easily written, and *unequivocal* characters, completely exemplified in their use by passages from good writers in the principal European and eastern languages, would satisfy every want, without going into impracticable niceties; and we earnestly recommend the construction and promulgation of a manual of this kind for the use of travellers, voyagers, and colonists, as a matter of pressing urgency, to the consideration of philologists, ethnologists, and geographers, in their respective societies assembled.*

We have been so intent on the subject matter of the work before us, as to have left little space for comment on the mode of its presentation to the English reader. The author has been especially fortunate in his translator (translatress we should rather say, since, in the style of its execution, we have no difficulty in recognizing the same admirable hand which gave an English garb to Baron Wrangell's expedition to the Polar Sea.) So perfect a transfusion of the spirit and force of a very difficult original into another language, with so little the air of a translation, it has rarely been our fortune to meet with. To the editor it is indebted for several very interesting and instructive

notes (to some of which we have had occasion specifically to draw the reader's attention) relating to a variety of subjects, on which, either from personal observation on the most extended scale, or from laborious and systematic discussion of the observations of others, he is entitled to every attention.

While the preceding pages were in progress, we have been favored with the perusal, in proof sheets, of a portion of the second volume of the "Kosmos," (translated and edited as above,) containing, under the title of "Incitements to the Study of Nature," a series of beautiful and brilliant essays of the highest literary merit, and full of scholarship, classical research, and artistic feeling, on the reflex action of the imaginative faculty when excited by the contemplation of the external world, as exemplified in the production of poetic descriptions of nature (especially of wild and landscape scenery,) and in landscape painting. For examples of the former kind, M. de Humboldt lays under contribution the literature of all ages and nations, from ancient India to modern Europe, entering largely into the influence exercised by the peculiar aspect of society in each on the development of this form of the poetic sentiment, which he regards, and justly, as the first expansion of the heart towards a recognition of the unity and grandeur of the Kosmos. In like manner the art of landscape painting is traced from its first origin as the mere background of historical composition or scenic decoration, to its grand developments in the seventeenth century—to "Claude Lorraine, the idyllic painter of light and aerial distance, Ruysdael's dark forest masses and threatening clouds, Gaspar and Nicholas Poussin's heroic forms of trees, and the faithful and simply natural representations of Everdingen, Hobbima, and Cuyp." The gradual emancipation of the art from its trammels, as a subordinate auxiliary, and its assumption of an ideal of its own embodying, are shown to be ever found in connection with increasing knowledge and observation of nature consequent on advancing cultivation. To such poetic descriptions and depicted scenery, as well as to the view of exotic products assembled in collections, hot-houses, and museums, he traces much of that lively impulse which stimulates young and excitable minds to foreign travel for the sake of knowledge, and to the prosecution of physical study at home. These essays form a graceful and elegant episode, interposed between the more massive and austere divisions of the general subject, the "Physical Description of the Universe," which we have passed in review, and the "History of the Contemplation of Nature;" and will be read with equal enjoyment by the poet, the artist, and the philosopher.

Of the "History of the Contemplation of Nature," one section only has reached our hands; sufficient, however, to convey a notion, and to correct an impression we had formed, as to our author's intended mode of handling this part of his matter. The history with which he proposes

* Many attempts at the construction of such alphabets have been made, but none at all satisfactory. That of Young (Lectures, ii. 276) is perhaps the most complete in its analysis of speech, though still defective, and in some points erroneous—his system of characters wretched. Gilchrist's is perhaps the best known, and in profession nothing short of absolute universality, but its author (a Scotsman) was altogether defective in ear, and his examples in consequence self-contradictory—his system of writing confusion itself. The *Fonotipik kariktur*, devised by the ingenious Mr. PitmUn and his associates for the speedy and effectual abrogation of the English language, would have considerable merit were it not founded on an essentially English instead of a cosmopolitan view of the vowel sounds as represented by European letters, and therefore sure to be rejected by every foreign philologist. Yet even this, enlarged to suit the exigencies of the case, would be preferable for temporary use to the present no-system in which each traveller in his diary, and each missionary, in formal grammar and dictionary, confounds and forever mingles, as seems good in his own eyes, the pronunciation he pretends to fix.

to present us would appear to be not so much a history of Physical Science in the gradual development of its theories, as a *history of objective discovery*, a review of those steps in the progress of human cultivation which have prepared the way and furnished the materials for science such as we now possess it. With every successive expansion of society the views of mankind have become enlarged as to the extent and construction of the globe we inhabit, the objects it offers to contemplation, the elaborate structure of its parts, and its relation to the rest of the universe. Great events in the world's history have from time to time especially facilitated and promoted this enlargement of the horizon of observation; such as the migrations of nations, remarkable voyages, and military expeditions, bringing into view new countries, new products, new relations of climate. Great epochs too in the history of the knowledge of nature are those in which accident or thought has furnished artificial aids, new organs of sense and perception, by which man has been enabled to penetrate more and more deeply either into the profundity of space, or into the intimate constitution of the animate and inanimate objects which surround him. In tracing these epochs and following out the course of these events so far as they bear upon the object in view, availing himself of all the light which modern research has thrown on the early history of civilization, whether from the study of ancient monuments, or the critical comparison of written records, M. de Humboldt has opened out for himself a field nearly coextensive with literature itself, and one peculiarly fitted to his own powers and habits of thought, which, as our readers need not to be informed, have made its higher walks—Æsthetics, History, and Antiquarian and Monumental Lore—quite as familiar to him as those of Science. We should do injustice, however, both to him and to those whose office it may be to render an account of the further progress of this work, by further anticipation, and shall, therefore, content ourselves with adding that, should the conclusion correspond (as we doubt not) with these beginnings, a work will have been accomplished, every way worthy of its author's fame, and a crowning laurel added to that wreath with which Europe will always delight to surround the name of Alexander von Humboldt.

VISIONS OF THE PAST.

ALONE in the dreary night—
In the dark cold night alone—
I pine for the dawning light,
And the birds' first whispering tone.
Visions surround my bed,
A dim unearthly train,
And I close my eyes with dread—
But I close my eyes in vain,
Alone in the dreary night!
O mournful, ghostly band!
Why do ye come so near?
O guardian spirit! wherefore stand
Far off, as if in fear?

Spread, spread thy sheltering wings;
Thou—only thou—canst save;
Protect me from these fearful things,
The tenants of the grave,
Alone in the dreary night!

Why does that little child
Come near and nearer now?
Her eyes are very pure and mild,
And heaven-bright her brow.
But she fills *my* heart with woe,
And I shrink with a dreadful fear,
For thy baby features well I know—
O sister, fond and dear!
Leave me, thou little child!

In infancy she died;
Why did I live, O God?
In life we slumbered side by side,
Why not beneath the sod?
We played together *then*,
An undivided pair;
I live—the most accursed of men;
She died—an angel fair!
Leave me, leave me, little child!

O mother! didst thou mourn
Beside that little bed?
And didst thou pine for her return,
And weep that she was dead?
That garb of misery—
Those tears—that bitter sigh—
Mother, they should have been for *me*,
Because I *did not die*!
Mistaken human love!

O spirit, haunt me not!
Mother—away! away!
My heart is sick—my brain is hot—
I cannot—dare not pray.
Thy face is calm and sweet;
In thine unclouded eyes
A holy love I dare not meet,
A tender radiance lies.
O mother, haunt me not!

Or, if thou must appear,
Come in that latter time,
Come with that glance of woe and fear
Which marked my course of crime,
When thine eyes had lost their light,
When thy heart was sad within,
When thy clustering locks were white
With grieving for my sin:
Come, with thy broken heart!

All happy things and pure
Mine agony increase;
My sin-tost spirit can endure
All—save to dream of peace.
O childhood innocent!
O youth too bright to last!
Has *hell* a bitterer punishment
Than *Visions of the Past*?
Pure spirits, haunt me not!
Sharpe's Magazine.

THE LAST RING OF FANCY'S KNELL.—Among other melancholy evidences of the decline of our Old British Sports, so feelingly lamented in *Bell's Life*, we see the tradesmen of London have had meetings for abolishing that last remnant of the sports of the ring—"Christmas Boxing."—*Punch.*

[The National Era is one of the few papers which can look at a subject on all sides ; and we recommend to our northern, as well as to our southern readers, its opinions as always well worthy their consideration, however they may disagree with them. We are especially willing to hear anybody by whom the preservation of the Union is considered a cardinal point.]

PLAN OF PACIFICATION AND CONTINENTAL UNION
—ANNEXATION OF THE STATES OF MEXICO.

SIX months ago we wrote an article proposing a plan of Pacification and Continental Union, for the purpose of extricating the United States and Mexico from their present unhappy controversy, and securing the permanent peace, freedom, and well-being of the entire continent of North America.

The views and arguments then presented we shall not repeat. Since that time public opinion has undergone some change. What then seemed extravagant is now seriously entertained by many sober, reflecting minds. So strong had become the manifestations of this change, that Mr. Calhoun took the earliest opportunity, in the opening of this congress, to direct attention to them, and warn his southern friends against the annexation of Mexico, as the deadliest blow that could be inflicted upon the system of slavery. That such an event would violently disturb the system *within its present limits*, we do not suppose, but, as we shall have occasion to show, it would erect a perpetual bar to its extension.

One or two anti-slavery journals denounced us as guilty of pandering to the popular lust of conquest, of inflaming the pride of a people already puffed up beyond measure. Such was not our object. We but stated facts concerning the position, character, progress, prospects, and responsibilities of the American nation. Are we to be condemned for thinking that God has not given over our countrymen to ruin, but that his long-suffering is still to be exercised towards them? That we have abused power, been perverse and ungrateful amidst unexampled prosperity, committed crimes for which we should clothe ourselves in sackcloth and ashes, is too true ; but we are not all evil, evil only, evil continually. He, who would have spared Sodom had there been ten righteous men in it, is not yet prepared to overwhelm us with devouring fire. There is room for repentance ; there is ground for hope ; there is evidence of progress ; "a hymn for the day that is dawning" is going up to heaven from myriads of the pure in heart ; we have yet the ability and means for self-regeneration. It is something that we have carried out the principle of self-government in this New World in its full application to seventeen millions of freemen. It is something to have demonstrated that the voluntary principle in religious affairs is more efficacious and fruitful than the policy of governmental interference. It is something to have recognized the educational wants of the masses, and to have instituted immense, well-directed charities for the enlightenment of paganism, and relief of poverty. It is

something to have established institutions which have prevented the excessive growth of pauperism, and which have secured to every freeman the privilege of sitting under his own vine and fig-tree, none daring to make him afraid. And it is because we have done this for seventeen millions of freemen, and have thrown open the same blessings to the myriads of suffering emigrants from the Old World, that we have hope of the redemption and elevation of the two-and-a-half millions of slaves, who, to the dishonor and condemnation of a portion of our countrymen, are excluded from the common heritage. With such views, we must be pardoned for dwelling with pleasure upon the extension of our territory and expansion of our population.

The journals referred to seemed entirely to overlook the anti-slavery bearings of our plan. The largest and most densely peopled portions of Mexico are unsuited to slave labor. This the slaveholders well know ; and it is equally well known that the people themselves, a large majority of whom is of the Indian race, are possessed by an ineradicable antipathy to slavery. The incorporation of an anti-slavery safeguard in the draft of propositions for a peace, submitted by the Mexican commissioners to Mr. Trist, was the offspring of this sentiment.

Our plan proposed *voluntary* annexation, the states of Mexico being permitted to enter the Union on a footing with the original states. Necessarily they would come in *free*, and thus continue ; and this simple fact, it is obvious, would raise a barrier to the diffusion of slavery, more secure than any that could be provided by the power of the national legislature. The certainty of such a consequence will hardly be contested by any one who is acquainted with the speculations of southern newspapers, or has listened to the debates in the senate of the United States, in relation to this subject.

One aspect of our plan we thought would commend itself to the advocates of the cause of peace. Artificial boundaries between neighboring nations are provocations to war. Had it not been for the voluntary amalgamation of Scotland and England, perpetual feuds would have drenched their borders with blood, and checked the growth of both countries. Voluntary union has harmonized Celt, Saxon, and Briton. Different races have settled Mexico and the United States, but no natural boundaries divide them. We can give no countenance to that doctrine of races which finds in their distinctions perpetual sources of antagonisms. That is not the doctrine of Christianity. All men are of one flesh, formed by God's fingers, reflecting the same divine attributes—all men are brethren. Where physical circumstances and political necessities throw them together, in equal conditions, they will readily harmonize, under the influence of the spirit of Christian Brotherhood, and of enlightened self-interest, so characteristic of the age. Once it was not so ; when men acted on the maxim of Hobbes, that war was the natural state of mankind. The emigrants from the northern hives of

Europe and Asia, in looking out for new homes in the south, prepared themselves for overcoming the hostile reception they were sure to meet. Instead of being welcomed to the hospitalities of a more advanced civilization, their animosities were aroused by the fierce opposition of armed legions, and their settlements were effected amid blood and suffering, whence sprung undying hate and enmities. In this way, clans and races were insulated and embittered, and Europe was parcelled out among tribes, which, foes in their infancy, have retained, as nations, their antipathies. But now, emigrants from all these jarring nations, crowd our shores every year, in numbers exceeding the aggregate of the emigration for a score of years, in ancient Europe; and here their jealousies melt away—Saxon and Celt embrace—all distinctions are swallowed up in the great vortex of our population, all are Americanized. And why? Chiefly because all, with the sad exception of the colored people, are equal—upon all rest our institutions equally—over all their fostering care is equally spread—all are permitted to obey, without irritating interference, the laws of their own being, with nothing to provoke the pride or antipathies of race—each one feels that he has an equal right with the most favored, to call this *his* country—and thus the spirit of unity pervades and assimilates the whole mass.

The annexation of the states of Mexico would break down the partition wall between the two countries. It would give the citizens of both one country, one home, one interest; a common glory and a common destiny. There might not be much immigration from the south, northwardly, but there would be an almost unlimited infusion of American life into her veins.

In one steamer on the lakes, you shall see six hundred souls, the entire population of a township in the state of New York, embarked for the shores of Wisconsin. The process of interior emigration transcends all conception. It is a movement, uninterrupted in its flow, magnificent in its results, by which hundreds of thousands of our citizens, every year, change their homes, it may be their pursuits, without noise, without agitation, without the slightest disturbance to the machinery of society; and the great two-fold effect is, the rapid development of the resources of the country and the close cementing of its most distant sections. The annexation of Mexico would be followed by an unlimited expansion of this movement. The great ocean of life would begin to heave and swell upon the shores of the south-west. American civilization would infuse itself into the forms of Mexican society, and, ere long, the demonstration would be complete, that even the Aztec race was capable of expanding with the power of what men style the Caucasian civilization—in a word, that no race of mankind is so degenerate as to be beyond the influences of the agencies which a kind Providence has arranged in these latter days, for the redemption of all his children.

We proposed our plan, then, as a great peace

measure. What is it the advocates of the cause of universal peace contemplate, as a preventive against war? An international tribunal for the settlement of international controversies. Has not the congress of the American Union performed precisely the functions of such a tribunal for numerous powerful states, which, if politically isolated, each wielding the power of peace and war, would, ere this, have been dripping with each other's blood? Suppose this congress, by the voluntary annexation of Mexico, to become the supreme legislature over the North American Continent, with the exception (*temporary*, may we not hope?) of the Canadas, and we have a grand international tribunal for keeping the peace of the hundreds of millions who are destined to inhabit this continent, and at the same time a glorious example presented to the world of the social means by which Christianity may establish her reign of universal peace. But our plan contemplated *voluntary* annexation, and no other. The intervention of *force* would defeat the experiment, and entail ruin on both parties. Of what value is the forced union of England and Ireland to either country? A corroding cancer to England, a wasting curse to Ireland. The *coerced* annexation of Mexico would never result in real union. There may be subjugation, but no incorporation; and the subjugation would cost this country its republicanism, and Mexico its life. Subjugation and extermination would be inseparably linked together.

Now, what is the alternative? If our plan be not adopted, if the project of wholesale subjugation be repudiated, as we think it will be, what then follows? Fractional annexation, for the benefit of slavery—the amount and the time always to be determined by the demands of slave labor for more soil to blast and desolate. That this will be the fixed policy of the government, unless one or the other of the modes just indicated be adopted, is as certain as that in fifty years slaveholding territory has been trebled, and nine new slave states added to the Union. The annexation of Texas, in its inception, progress, and accomplishment, foreshadows the future. Will the non-slaveholding people of this country suffer themselves to be committed to such a policy? Not forever. The hour of resistance must come, but the danger is that it will come too late. It may come only when the sole hope of release from such companionship in crime will be a division of the Union, and a reorganization of the majority of the states in the temperate latitudes. The people of these states cannot continue forever linked to the cause of slavery-propagandism. If the slave power hold on to the government, using it, from time to time, as the agent for the dismemberment of Mexico, in fractions, just to suit the demands of slave labor, there are countries on our northern border, in which a sentiment is already springing up, which may make a reorganization of the Union an act of high expediency—a reorganization, by which a union might be formed, extending from the utmost bounds of human labor in the north, to the extreme limits of free labor in the

south—a union established not upon compromise, but upon the great principle—liberty, the inalienable right of every human being, and law, its defence.

It were well for slaveholders if they would take warning in time.

From the N. O. Picayune of Jan. 8.

THE WAR—PROSPECTS.

IN the announcement of Gen. Scott's order of the 15th December—"The army is about to spread itself over and to occupy the Republic of Mexico, until the latter shall sue for peace in terms acceptable to the government of the United States"—is seen the commencement of a system of operations which the events of the past year have foreshadowed as inevitable. From the lifting of the curtain, at Palo Alto, to the grand finale before the city of Mexico, every scene has been heralded as the last act of the drama; but those who were acquainted with the actors upon the bloody stage knew better. Whatever damage was done to the vanity of Mexico by beating her armies, was tinkered up by a proffer of peace, which her generals construed in a way to cover the defeats they had encountered. The people could not comprehend the idea of victors being supplicants for peace, and popular leaders were not interested in explaining the phenomenon to them. The predictions that were laughed at in the beginning have come to pass, and the government has been compelled to withdraw our troops ingloriously from the field, or charge them with the duties and responsibilities of conquerors.

Who can say what the Mexican government would have done, had our army, from the commencement of the war, been instructed to do what Gen. Scott is in the act of doing now? Is it not probable that terms of peace would have, ere this, been offered by the vanquished enemy? These are questions which it may be idle to debate now; but the army, as a mission of peace, has done nothing, whilst in its proper calling it has performed wonders. And this was foretold.

It is in no spirit of querulousness that the mistakes of the past are cited, in view of the new line of policy adopted, but in justification of a change in the strategy of the war, which is the beginning of an end that is shrouded in darkness. "The army is about to spread itself over and to occupy the Republic of Mexico." It is about to establish civil government, to a certain extent—to levy and collect taxes—to lay and enforce imposts—to regulate commerce between the different states—to reform the administration of public affairs, and, indeed, do such other acts as pertain to the powers of an organized and established state. What this condition of things will lead to, what it ought to lead to in the end, will depend more upon the course Mexico and Mexicans may pursue, than upon any fixed purpose in this country to blot her out of the list of nations. The United States government can scarcely do less

than they are now doing, and the people of this country will not be held accountable for the consequences of a career forced upon them by the foolhardiness of another. At any time since the beginning of the war it has been in the power of Mexico to secure her nationality by making or listening to overtures of peace; and even now terms which would leave her sovereignty over a larger domain than she can rule, intact, would be embraced with alacrity by the authorities of the United States. But what will become of her if she pause till the army stretch its arms to all places of her pride, and lay its hands upon all the towers of her strength! And what yet if the infatuation of her chiefs detain the military governments of the United States in their midst till the better order of Mexicans claim the protection of a power whose martial law is milder in enforcing order, than the governments they have been accustomed to were in failing to do so! The army is about to spread itself over and occupy Mexico till the Mexican republic "shall sue for peace in terms acceptable to the United States." When will that be! What indications are there that it will ever be! It is the misfortune of Mexico that those who would serve her do her harm—those who in this country, and they are among the greatest and best of the land, who would not take an inch of her territory, but keep the issue open. Whilst congress is debating and statesmen building up theories, and politicians fingering the public pulse, the "army is spreading itself over," and whilst the agitation of topics connected with the war is kept up, it is "occupying the republic of Mexico." The energies, enterprise and wilfulness, so to speak, of a bolder and a superior race, are permeating the hills and valleys of the overrun republic. Nor is it prophetic of the long dominion of a hybrid people to have their flowers scented by any of Saxon origin. We may condemn, we may argue against the tendencies of a race of men of higher organization, bolder hearts, more enterprising minds, of superior thews and muscles, and stouter wills, to supplant weak and emasculated tribes—good authority can be evoked to show how wrong all this is—homilies to this day are written against the pilgrim fathers for ejecting the savages from the primeval forests of the North—but until the eloquence of ethics can melt human nature and mould it anew, we apprehend the world will wag on much after the old fashion. No scrap of philosophy, nor moral essay, nor political disquisition can countervail the dangerous odor of fields, in perennial blossom, to an army of Anglo-Saxons

From the Journal of Commerce.

SCENES OF THE WAR.—NO. 1.

THE VOLUNTEER'S MOTHER.

It was the noon of night. The stars
On Mexico were gleaming,
A soldier slept upon his arms,
And as he slept was dreaming.

Visions of distant scenes and forms

Around his brain were flitting—
His good old father by the fire,
The broad hearth fire, was sitting;
His mother on the other side
Was busily a-knitting.

And down her cheek a big tear rolled
And fell upon the stocking,
Yet not a word she spake, but kept
A-knitting and a-rocking—
A-rocking in the same old chair,
And working all the faster,
As thoughts went wearily along
And absent ones stalked past her.

"What, Betsy! crying! Why, what now?"
"Oh John, I can't help weeping;
Who knows on what a dismal bed
Our Jonathan is sleeping!"

"Pshaw, wife! he's well enough to do;
Don't borrow trouble, Betsy:
It seems to me some grief or other
Most all the time besets ye."

The soldier dreamed his mother looked
Up in her husband's face,
And carefully wiped from off her cheek,
Of tear-drops every trace;
And looking down again, knit on,
Her weary, weary knitting,
But stole a glance, once in a while,
At where her John was sitting;
And he, the old man, steadily
Gazed in the crackling fire,
And as the ruddy maple blaze
Flashed higher yet and higher,
The old man bowed his face, and leaned
His elbow on his knee,
And one large tear adown his cheek
Went trickling mournfully.

The mother kept her gaze unmoved,
Swiftly her thin hands flew,
And faster, faster went the yarn
Her worn old fingers through;
And then a tear stole down her cheek,
Another, and she strove to speak,
But could not, and she sobbed aloud,
And sobbing seemed almost to choke,
And as she fell upon her knees,
The sleeping soldier turned, and woke.

The soldier woke by the camp-fire blaze.
The tented plain, the mists of night
Coldly and grayly met his gaze,
And all was gloomy save those rays,
Those solemn star-rays, always bright.

And from the mountain sides around,
Long ere the coming of the sun,
He heard a heavy thunder sound,
The echo of the morning gun.
And from the white tent on the hill
Anon he heard the call to rally,
And the soft bugle notes that sound
To sleeping soldiers the reveille.
And when the first sun ray across
The mountain and the valley gleamed,
The soldier leaning on a gun
Had quite forgot that he had dreamed.

Morn on the battle field! Serene and far
Shrank from the holy sky each watching star—

They might not view the panoply of war—
Not for such watchers the ensanguined field,
The battered sword, the broken lance and
shield.

Not for such eyes the dead upon the plain,
With eyes pressed shut that will not open
again,
Swords clenched in hands that will not loose
their grasp,
Lips that bear impress of the last long gasp,
The grinding gasp of dying agony!
Well, holy stars, such visions might ye flee.

But see! the foe is on the hill;
The invader's in the valley still;
While further down the deep ravine
The glittering infantry are seen,
And further on the southern flank
The cavalry in solid rank.
Their horse-tail plumes float on the air!
And now the trumpet, wild and clear,
Rings from the valley to the hill,
Fainter but now, now wild and shrill,
In ever-varying note, until
Along the summit of the hill
The echo dies away.

"Advance!" The infantry pour down!
The battle shouts the bugle drown;
Now on the hill, now on the plain,
They meet, advance, retreat again;
Now pour the squadrons on the flank,
Phalanx by phalanx, rank by rank,
Down, down they go.
Hark! with that yell the banner sank
Of Mexico.

They rest at length, the battle done,
The field well fought, the field well won;
See in the west the setting sun;
The dews of night begin to fall,
List! 'tis the bugle, the recall.

Night settles on Aceldama,
On hill-side and on plain,
And eyes are closing now that ne'er
Shall see the morn again.
And wearily and heavily
Their eyes are closed to rest
Who lay them down on earth to sleep
As on a mother's breast.

A soldier lay alone. His eye
Was growing dull and dim,
And on his ear stole now the faint
Low murmur of a hymn.
He heard his mother's holy voice,
Holy it seemed to him!
Shadows came o'er his brain,
The dear ones all were there;
His mother knelt! he felt her hand
Pressing his matted hair;
He felt her kiss, her holy kiss,
Her voice was in his ear!
He turned him on his cold earth-couch,
Turned heavily in pain.
The soldier sleepeth—but a dream
He'll never dream again.

There's a grave-yard on a river bank,
The yellow Illinois,
And many a grave of maiden fair,
Of matron and of boy;
And one grave there is very long
Six feet or even more,

A stout man's there, you may be sure,
 As any on the shore.
 No one is seen by that long grave
 Until the Sunday noon,
 Then after church a worn old wife
 Sits on the gray foot stone,
 And carefully and slowly wipes
 The tears she can't keep back,
 Till one by one they follow fast
 Each in the other's track;
 And then with kerchief to her face,
 Her head in sorrow bowed,
 The good old woman falls to her knees,
 And sobs and weeps aloud.

And once a man who stood close by,
 Leaning on the next stone,
 Heard the old woman as she wept,
 Sob mournfully, "Oh, John!"
 He thought so, but could not be sure,
 So sorely she took on,
 Whether the word he heard her speak
 Was "Jonathan" or "John."

And she is watching, waiting, till
 She hears the voice of John
 Say, "*Betsy, come,*" and Jonathan
 Call "*Mother,*" then she's gone!
 And as the weary days go on,
 You'll see her always sitting
 In that old chair, by that hearth stone,
 And steadily a-knitting.

And God remembers every tear
 That drops on that yarn stocking!
 And, mark you! for the agony
 That keeps that old chair rocking,
 Some one will have to answer, and
 A fearful reckoning make,
 When the old woman and her John
 And Jonathan awake!

LETTER FROM MEXICO.

Extract of a letter to the New York Courier and Enquirer.

VERA CRUZ, Jan. 17, 1848.

CAPT. RUFF's company of mounted riflemen composed part of the escort to the last train, which arrived from the city of Mexico. Gen. Twiggs and staff came down with that train. Lieut. G. H. Gordon, of the rifles, was badly wounded just before he reached this city. The day of his arrival here, he was on rear guard, and very imprudently rode some distance in advance. The train had just passed by, he thinking of anything but guerillas, when suddenly two of those gentlemen made their appearance by the side of the road. The first intimation the lieutenant had, was the very unpleasant prospect of two of their guns leveled at him. What was to be done? I think the Lieut. should have put spurs to his horse and either returned or passed by them, giving them a flying shot. He thought differently, and decided upon slipping off his horse and putting the animal between himself and the enemy. Just as he dismounted one of them fired. The shot took effect in his left hand, the ball entering between the thumb and forefinger and coursed along the back of his hand, shattering it very badly. The horse broke away, and the remaining ruffian took a deliberate

shot at him which took effect in his legs. With great presence of mind, he drew his sabre and advanced upon them, when they fled. Had he fallen from the effects of the shot, they would have jumped upon him, knifed him, and stript him of all his clothes before the guard could have come up. He has *nine* shots in one leg, all of which passed through, and *three* in the other; three of the balls still remain in his leg. I am happy to say he is doing well, and is walking about. I fear the hand may be rendered useless for life. It seems hard, after participating in all the brilliant victories in which his regiment has enacted so conspicuous a part, that he should receive a wound, almost within sight of this city, by the hands of these cowardly guerillas, that may unfit him for any more duty. One cannot help feeling the deepest sympathy for the gallant rifleman.

The guerillas seem to be pretty well broken up of late. Small detachments and parties have come through from the city without being attacked. The attack, of which I advised you, on the merchants' train, is the only one of any importance for some time. Padre Jarauta seems to have given up the trade, or may be secretly organizing to come out again in full force. The padre was a Carlist priest in Spain, was apprehended on account of his political opposition to the government, and was sent to the Havana to serve as a private soldier, and actually served as such during the period prescribed by the authorities. He then came to Vera Cruz and resumed his priestly robes and continued in the exercise of his spiritual functions until the fall of Vera Cruz. He was in the city during the bombardment. He then became a leader of guerillas, and has since been distinguished as the most active partisan in the Mexican service. He had a reputation to make, but none to lose.

Many accounts of late have appeared in the papers, of the wonderful rides performed by our officers in California. There are some which occur much nearer home, equally worthy of record. The toughness and endurance of the hardy California ponies is truly wonderful, but they have their rivals for fame among our American horses. A journey performed by Col. H. L. Kinney, of Texas, will compare favorably, not only in expedition, but in the various dangers passed through and circumvented by his adroitness and cunning, with the best of them. It seems hardly necessary to say, "who is Col. Kinney?" The gentlemanly and liberal proprietor of the town of Corpus Christi—the energetic and never-tiring agent of the quartermaster's department, during the campaigns of Gen. Taylor, cannot be very readily forgotten by any in the service; his unwearied efforts, although often the topic of conversation, have never yet received that official compliment which they so well merit. His fearless and energetic disposition ever places him in advance, and the army are undoubtedly indebted to him for the means of transportation by which they reached Monterey. His gallantry in that action was conspicuous. He accompanied the column to Victoria, going with the advance

under Gen. Quitman from Montemorelos. By his intimate knowledge of the Spanish language and character, he was enabled to keep the army well supplied with forage, although parties of the enemy slowly retired before them. At Victoria, Gen. Taylor found himself without any communications with Gen. Scott, nor was he aware of his location. Gen. T. was anxious to send a despatch to him—he was supposed to be at Tampico. Col. Kinney volunteered his services to be the bearer of his despatches. The country between us was occupied by the enemy; the ride was one of great risk and imminent peril. The distance to be travelled, by the route he was to take, was two hundred and fifty miles. Gen. Taylor authorized him to select any horse belonging to the government. The colonel is not more celebrated for his endurance of fatigue and hardships of every kind in his many wonderful rides, than his keen eye for horse-flesh. After a minute and critical examination of all available nags, he selected the horse ridden by the sergeant major of the 2d dragoons. The result proved his knowledge of the animal. He decided upon taking the coast route, via Soto la Marina. Four dragoons were given him as an escort. I well recollect the cold and gloomy morning he started on his perilous journey. We had had no opportunity for some time of communicating with our friends, and many a *last* letter was handed at the *last* moment to the obliging colonel, to be deposited in the mail at Tampico, and be rapidly carried to anxious and expectant fathers, mothers, wives, sisters and brothers, to say nothing about those dear little creatures called sweethearts. When I bid him good-by, I thought, I must confess, the chances were against my seeing him again. He reached Soto la Marina, and there found, much to his particular comfort, the place occupied by about sixty lancers. Fertile in expedients, never wanting in ingenuity, he put a bold face upon the matter, and rode up to the *alcalde's* and demanded a certain quantity of corn and fodder for General Taylor, who, with a force, would reach there that night. His arrival produced quite a stir and commotion; anything but friendly glances were exchanged. It became quite evident he must soon leave the diggins or *take* leave of his head. To carry out the deception he demanded from the *alcalde* some men to go out and show him the best encamping ground for the expected troops! In the mean time he had determined to prosecute the journey with a man by the name of Donley and his trusty Mexican guide. As the small escort of dragoons might only insure his apprehension and retard his movements, he decided to send them back. So, while busily employed selecting his ground, he told the dragoons to ride without stopping to Victoria. They reached there safely. Kinney, Donley and the guide immediately left. It required great precaution; the country was filled with predatory bands and parties of lancers. It was an unknown route, untravelled by any American. At one point he met a body of lancers. He induced them to believe from his manner and conversation that a body of troops

were following him—they "*bounded*" in one direction, he in another. The ride was kept up night and day at a rapid rate. Several changes of horses were effected for Donley and the guide, but the faithful horse of his selection kept at his work and tired successively all the fresh ones. A courier, despatched from a small town through which they had passed, to give the inhabitants information of the party, so that they should be apprehended, arrived at the town of Pusas precisely at the same time of the colonel. The arrival caused all sorts of scampering among the women and children. At this point evidences of hostility became more apparent. Eighty miles of dreary country were still to be traversed. Stopping but for a moment he still pressed on. From this point he was chased sixty miles by a party of lancers, and on the morning of the third day he reached Tampico. He thus accomplished *two hundred and fifty miles* on the *same horse* in *two days and two nights*. The saddle was taken off the horse but *once*, and the party had but *one meal*. The horses had of course the hardest kind of fare. That can be put down anywhere, in any country, as *pretty tall riding*. The communication effected by Captain Walker with Fort Brown had not half the danger attending it as the communication of Col. Kinney with Tampico. He called his horse Selim; he still owns him, and the horse preserves his reputation. He is a great horse, and no mistake. By his speed and endurance he saved the life of Mr. Hargous, the great financier of the army. He was chased by a party of *guerrillas*, and although they wounded Selim, he carried him safe out of harm's way. The wound is not yet healed; the old horse will carry his honorable scars to the grave, but it is to be hoped he will live long enough to carry his gallant owner through many more of his perilous adventures. On the 15th an express arrived from the city of Mexico, with despatches from the army up to the 12th. All was quiet. The celebrated Col. Dominguez, with his spy company, on his way to the city, escorting the mail, captured Gen. Torrejon, Minon and Ganna, with some forty officers and men, between Puebla and Mexico.

OUR POLICY WITH MEXICO.

[The letter which we copy from the Boston Courier, sounds like that deep voice whose "statement of a case is better than an argument." It is, indeed, a fearful risk to make our fate dependent upon the return of Mexico to sanity and common sense. This argument, so national, and so full of massy meaning, we commend to our readers.]

WASHINGTON, Feb. 11, 1848.

Does the administration desire to annex all Mexico? "Give the devil his due." It does not. Neither do the members of the democratic party in congress desire any such thing. There may be here and there an exception, but the main body are *now* opposed to any annexation of any territory containing the thick of the Mexican population. Moreover, the administration would be very glad to make a peace without any more fighting. But

they have set their hearts upon having the Rio Grande, and the Gila, the boundaries between us and Mexico. And to get this boundary, they would at this moment be willing to pay Mexico just about what the territory it embraces is actually worth, and throw in our claims to boot. Their policy is to adhere to this claim, in the main, and to accept this boundary whenever they can get it, even if it should cost another year's war. To force Mexico to accede to this line by treaty, is their object in raising more troops to pour into that country. Still, they wish to hold out the idea to Mexico, that if she is not soon ready to yield to our present demands, they will be raised, and perhaps the extinction of her nationality will ultimately be the forfeit of her continued resistance to these demands. In all this, the administration is playing with edged tools. It is acting under the fatal delusion that a war upon *the people* of Mexico will more surely and speedily bring a peace than any other policy.

Now, this is the real point of the war question. Is this policy the true policy? The *army* of Mexico has been destroyed. Every step now taken is in subjugation of *the people*. And when was one people ever held in subjection by another, except by the aid of a large standing army? Poland is a subjugated country; but it takes hundreds of thousands of men quartered on her territories, and the enforcement of a most despotic system of internal police, to hold her in subjection. The policy involves that professedly dreaded result, the "absorption" of all Mexico;—a result which, though disavowed, not desired by the administration, may flow by inevitable consequence from its policy in the conduct of the war. If we send our forces over all Mexico, we must govern all Mexico. And when we have fairly entered upon the task contemplated by the secretary of war, and by the administration, we have taken a very important step in this "absorption." And no man need exercise much imagination to see how speedily and easily this thing may be brought about. Neither is it difficult to see the ten thousand difficulties and dangers, the expenses and perplexities, in which it must involve the country. France had her "Spanish ulcer." We shall have our Mexican ulcer.

Giving the administration the full benefit of its own statement of its position and policy, imputing nothing which it does not itself admit, divesting the subject of its partisan aspects, and approaching it in an impartial spirit, with no other object in view but to discover that course of policy which shall disentangle and keep disentangled our relations with Mexico, which shall involve the fewest hazards to our government and institutions, which shall least expose the country to detriment in its finances, and its industrial and money interests to injury and embarrassment; doing this, and what do we find? We see, in the first place, that if the administration policy is pursued, the country must continue to be at an enormous expense to maintain our troops in Mexico. The administra-

tion scheme requires at least 50,000 troops, which cannot be maintained at a less cost, at the lowest estimate, than 40 millions per annum. And is it not plain that while a drain of this sort shall continue, the business of the country, more especially that part which depends on the ease and activity of our money institutions, must remain at a standstill? This will certainly be found, indeed it is now found, to be a very *pinching* consideration. It is plain, also, that as we extend our military occupation, and continue to involve ourselves further and further in the business of governing and managing the heterogeneous materials which compose the Mexican population, we take upon us new burdens and new responsibilities. And from these responsibilities, having once fully assumed them, we cannot escape. If Mexico resists, we must quell the resistance; if she does not resist, we must still watch the inert mass. If she lies down in the ditch, and plays the non-resistant, she will still require the same supervisory force that would be requisite to her regulation and control, in case she was active and belligerent. Either way, the responsibility of entire control and government is thrown upon us, to the full extent of our progress in the interior of Mexico. And thus is the government to become inextricably involved in Mexican affairs, so long as Mexico refuses to accede to the terms of our dictation. And who can conjecture when this will be? Thus, too, will the President become, as commander-in-chief of our forces, a military conqueror, stretching his authority over the whole of Mexico, and carving out her territory into districts, to be governed by instruments of his own appointment. Is there nothing startling in this? Is it the proper office of a chief magistrate, chosen under republican institutions, to be presiding over the destinies of a foreign country, and dealing out its offices and honors to his subordinates, and controlling its millions of conquered inhabitants by the mere authority of military power? We ask, is it fitting? There may be nothing *unconstitutional* in all this, but what an extraordinary spectacle would it exhibit!—what an astounding result of the progress of free institutions! Yet this is the policy, this is the course marked out for the career of a democratic president! And such is the false position in which the country will find itself, if the policy of the administration is pursued, and does not result in a speedy peace.

Furthermore, the effects of this policy upon the internal condition of our own country are abundantly alarming. We are, by it, giving amazing strength and influence to the military arm of the government. The policy will continue to foster and infuse through all ranks a love of military trappings, and the hateful spirit of war and conquest. It involves an abandonment of the doctrines and practice of economy and retrenchment, and launches us upon a wide sea of expenditure. It will cover the public lands all over with bounty grants to soldiers, utterly destroying, for an indefinite term of years, this source of revenue. It will result in the accumulation of a great national debt.

It will lead to the imposition of a high revenue tariff, or a direct tax upon the people, in order to defray the expenses of the war. It will destroy the ability of the government to carry on even necessary works of internal improvement, and it will entail upon the treasury an almost everlasting burden, in the shape of a long and enormously expensive pension list, already formidable and rapidly increasing; and it will weaken to a great degree, our powers of offence and defence, as regards the other nations of the world.

We have made use of no swelling or unmeaning language, but in simple terms exposed what cannot be denied will be the inevitable results of the administration policy in the conduct of the war. No other answer can be given to what we have said, than this. "The policy will bring peace." Of this, no man can know. And if not, then all the consequences we have enumerated will follow.

Let us turn and see what better plan offers. Mr. Calhoun and other distinguished gentlemen have proposed to substitute what is called the "defensive line" policy;—a policy which looks to the withdrawal of our forces from their present theatre of operation, and placing them upon an exterior line; one *outside* of the populous districts of Mexico, and yet wholly within her territory.

The advantages of this policy may be briefly stated. It avoids the objections we have been considering. It will leave Mexico to manage her internal concerns in her own way. It does not involve an expenditure of over eight or ten millions of dollars per annum, a sum but little greater than is required by our military and naval establishments in time of peace. It does not involve any injury to the business of the country, requires no extraordinary arrangements in respect to our national finances, requires neither a high revenue tariff nor a direct tax, relieves the commercial community at once of its load of pressure and embarrassment, occasioned by the vast drain of specie necessary to prosecute active hostilities over all Mexico, and cuts at once the cord which threatens to bind our vigorous, healthy, flourishing and homogeneous population to the incongruous materials which compose the nebulous masses of Mexico.

It secures, at the same time, ample indemnity for our claims on Mexico, (and we certainly have claims,) and if carried out in conjunction with the possession by us of her principal exterior defence, the castle of San Juan d'Ulloa, and accompanied with the blockade of her coasts, would *constrain* a speedy settlement of our difficulties. In every point of view, therefore, it would seem that the substitution of the "line policy," for that of the policy of *conquest*, would be attended with the happiest effects. One thing is certain—if the attempt to coerce Mexico by thus establishing a cordon of military posts, and holding the door of her external commerce, should prove ineffectual, no disastrous consequences, to this country at least, would ensue. Mexico is too weak, too much exhausted, to bring into the field any force deserv-

ing the name of an army. Left to herself, her power would be neutralized by her own internal dissensions, and the quarrels of her military leaders among themselves. It seems, from our experience and our knowledge of Mexican character, perfectly fair to presume that no attempt would ever be seriously made to dislodge our troops from any position they might choose to occupy, away from the heart of the country. The remembrance of Buena Vista will forever remain in the hearts of the Mexican soldiery. They will never again be brought to an attack of an American fortified position. The idea of a border war along our line of posts, is a false presumption. There would be no population to attack, no property nor plunder to invite. We might continue for a while in a state of nominal hostilities with Mexico, but no real war would exist. Its horrors would all be hushed.

We have thus presented, in brief, what appear to be the only two practical modes of conducting the Mexican war. We have nothing to do now with its *causes*. We are in the war, and we must get out. One nation may make a war upon another, but it takes both to make a peace. We must have a new treaty with Mexico, before we shall have peace with Mexico. The entire withdrawal of our troops would be nothing. We still should have an unsettled boundary and unsettled claims. Our controversy with Mexico cannot now be ended by any act of ours alone. We are forced, therefore, to hold our belligerent attitude, till both nations can agree upon the terms of peace. We have no choice left but between different modes of conducting hostilities.

What, then, becomes of the entire evacuation, the "no territory" policy? This policy settles nothing, and it surrenders every hope of coercing Mexico, either from considerations of fear or self-interest. If its advocates are really in earnest in proposing the immediate and unconditional withdrawal of our troops, the policy is absolutely incomprehensible. It is exhibiting that unexampled anomaly of saying to a conquered and prostrate people, "Make your own terms of pacification, and we will agree to them." It is doing something more than taking a position of equality; it is to take an *inferior* position. It is, in a word, to say to wrong-headed, barbarous, inefficient, ignorant Mexico, make, if your distracted counsels will allow you to agree at all, just such a settlement of our differences as you choose, and we will assent to it. We see no way of avoiding this interpretation of this policy. The bare statement of it forbids comment.

Yet the opposition embraces many men who seemingly insist upon this policy as that upon which to rest, in opposing the issues of the democratic party. We submit that it is time for the main body of the thoughtful whigs throughout the country to review the arguments upon which it is advocated. A presidential election approaches. And the question in the convention which is to nominate the whig candidate, is to be, whether there is any hope of the election of any man who

represents these extreme views! And whether it is not plain that the combined strength of the opposition cannot be exerted in any other way than by planting itself upon the main features of the line policy, and adopting some man for a candidate who shall be considered its representative? Now if this policy is recommended by controlling reasons of state, as it seems to us it is, how much more emphatically is it recommended, when we take in view the temper of the public mind. And this is an element we have no right to overlook, in undertaking to adopt the course of party action to extraordinary emergencies.

J. S. P.

OUR PARTY STRUGGLES.

[We copy from the National Era the two following articles. Our readers are aware that we have expressed our dissent from some of the opinions of that paper. We cannot go so far as it does in supporting the independence of the states, even to nullification. But we are sure to find in it the honest opinions of men who look on all sides of them; and they are always worthy of being carefully weighed and examined by all who disagree with them.]

For our part, we hope that the whigs may nominate Gen. Taylor, and wish that the democrats would also; for whatever may be said against *military rulers*, they are better than *politicians*—and in this case we have so much solid foundation for confidence that we shall desire an opportunity to vote for him, by whomsoever he may be supported. He will certainly have many votes from both the great parties, which are now in a transition state.]

PARTY MOVEMENTS IN CONGRESS.

THE journals of congressional proceedings do not always convey a clear idea of what is actually done in congress. Occasionally there are movements, the secret springs of which are hidden from the public eye. Not unfrequently, the uninitiated reader feels himself totally at a loss to account for votes flatly contradicting each other, given by the same men, upon the same occasion. The voting recently in committee of the whole on the state of the Union, and in the house, in regard to direct taxation, is an example in point. The subject of the reference of the President's message being under consideration in committee of the whole, Mr. Wilmot, a leading democrat from Pennsylvania, moved to amend one of the resolutions by adding instructions, to the committee of ways and means, to inquire into the expediency of providing for a direct tax on personal and other property, to the amount of five millions of dollars, to be apportioned among the several states according to the rule prescribed by the constitution, to continue during the war, and until the extinction of the public debt. The amendment was sound in principle; it is honest and reasonable, that no debt be incurred by a government, without at the same time making adequate and certain provision for its liquidation. Especially is this principle applicable to a debt incurred in the prosecution of a war; for it is obvious that such a provision, by making the people "feel the cost of military glory," would convert their thrift and love of money into restraints

upon their ambition. The amendment of Mr. Wilmot was hailed with great satisfaction by the whigs, but coldly received by the democrats. The latter it displeased, because, although in itself a democratic measure, it was not the policy of the administration—and, besides, the effect of it would be to awaken a popular feeling unfavorable to the further prosecution of the war. By the former, it was hailed, not because the majority of them favor the policy of direct taxation, but they were glad of an occasion to perplex their opponents, to out-brag them on a democratic principle, to test the sincerity of their avowed belief that the war was popular. A few, members of both parties, were sincere in the support they gave the measure—some sustaining it from principle—some, because they deemed it the best way to hasten a peace.

In this state of things, the question was taken, tellers being demanded, and ninety-three members, a large majority of them whigs, sustained the amendment. "Give it up! Give it up!" resounded from the democratic members—but not the whigs were zealous. "Vote! vote!" they cried—and so twenty-nine members, chiefly democratic, walked between the tellers, voting *nay*.

The resolutions were read, and then reported, as amended, to the house. Debate immediately commenced upon them, consuming one day and part of another, so that time for consultation was allowed among the whig members, and their great leaders who are now in Washington. Thursday. Mr. Vinton, the chairman of the committee of ways and means, obtained the floor, and his speech disclosed the result of consultation. He opposed the amendment of Mr. Wilmot—denounced the general policy of direct taxation—showed his whig friends that it was perfectly consistent with the free-trade principles of Mr. Wilmot, but directly repugnant to the doctrines of protection held by them—referred to the growing wants of the administration, its embarrassment, the accumulation of debt; taking occasion to argue, in this connection, that much of the embarrassment had been caused by the democratic policy of a low tariff and a sub-treasury, and declaring plainly that the true policy of the whig party was, to eschew direct taxation, refuse any partial change in the tariff, reject all idea of a tax on tea and coffee, and patiently wait till the current of events had fairly driven the country to the necessity of revising the whole tariff system, so as, while providing for the support of the government, to *protect the manufacturing interests of the nation*. "As I said when I rose," remarked Mr. Vinton, "we have nothing to do but to bide our time; by the progress of events, they who are in power would be compelled to come to us and ask that that protection and those revenues be restored which they violently took away. That is my doctrine."

Enough. When the resolution, which was amended in committee by whig votes chiefly, was read, a division was called for; the original resolution was adopted; the amendment was rejected, only forty-four voting in its favor, and one hun-

dred and forty-eight against it—the great majority of each party arraying itself in opposition to the measure. Of the motive which led many to adopt this course, the following editorial in the *Washington Union* affords the explanation :

"Mr. D. Wilmot, of Pennsylvania, is not content with the notoriety he has gained by his Proviso. We must have the *Wilmot Proviso* No. 2. He has proposed a scheme of direct taxation—to fall, we presume, heavily on the slaves of the south. Fortunately, this day it was rejected in the house, several of the whigs voting against it.—[All, except some ten or fifteen.]

"The administration does not ask such idle schemes and such mischievous allies. If this representative from Pennsylvania is not content with consulting wiser counsellors, he had better set up a school of his own, and call it the *Wilmot school*. If he means, however, to coöperate with the republican party, we advise him to consult and act with them. The administration has laid down its platform. Pursue its measures of finance, let them be honestly carried out, and we shall require no direct tax ; but we will obtain what money we require on moderate terms."

The democrats should be very thankful to be relieved from all responsibility ; the edicts are framed in the cabinet—register them, and be still—what do you know, gentlemen democrats, about affairs of state !

But, leaving the democrats to obey, as they are bidden, we call attention to the policy of the whigs, as disclosed by Mr. Vinton's speech. By direct taxation they could hasten a peace. But they reject this policy. And why ? The accumulation of debt lays the basis of the old American system—a high tariff and a national bank. To suffer the war to linger, is to add every day to this debt, and so enlarge this basis. Now, we will not venture to impute to the whig leaders a deliberate purpose to let this war run on, at the discretion of the executive, but we will assert, what every candid, reflecting mind must admit, that the views of governmental policy they entertain respecting a public debt, a high tariff, and a national bank, must abate their sense of the importance of decisive measures to terminate the war at once, and dispose them to continue the policy of granting supplies to the President, attempting, at the same time, to throw the sole responsibility on him. We ask the people, what they think of these movements !

POLITICAL CALCULATIONS.

THE *New York Tribune* labors hard to show that Mr. Clay is not only the *best*, but the *strongest* presidential candidate whom the whigs can select. The tenacity of purpose evinced by the admirers of that gentleman is equalled only by his heroism in sacrificing himself to their wishes. But if their devotion to his interests be intense, so is the opposition of his enemies. Nothing would tend more to stifle the Babel voices in the democratic party, to inflame its zeal, to bring out all its strength, than the selection of Henry Clay as the whig leader. For one, we cannot doubt that the whigs would

have triumphed in 1844 under almost any other standard bearer. The democrats regard Mr. Clay as preëminently identified with an entire scheme of governmental policy utterly abhorrent to their views and feelings. They know that he is a bold, determined, an inexorable politician ; that no party leader ever exerted more power over his friends ; that, were he President, he would not hesitate to urge, with the pertinacity, decision, and tact, so characteristic of his whole career, the reëstablishment of all the great measures—a high tariff, a national bank, and protection to capital—still cherished by the whig party proper.

No other man would dare venture upon all these measures : he would ; and it is because they believe this, and fear his tact, firmness, and energy, that "the democracy" throughout the country would for a time merge their dissensions, and rally as one man in opposition to him.

The whigs, one might suppose, would take a hint from their opponents. Why is it that the *Washington Union*, and other far-seeing presses of the same type, are so respectful to Mr. Clay, so full of regret, so scandalized, that the whigs should think of passing over all his eminent services, and taking up a military chieftain, or some third-rate man ! Just because they would rejoice to see Mr. Clay once more in the field, for the sake of securing a democratic triumph.

In 1844, the whigs had every advantage. In opposing immediate annexation, they represented the majority of the people of the country. That measure was sprung upon the democratic party at the very moment, and took them all aback. They were not prepared for it. It needed but sagacity on the part of the whigs, in the selection of a suitable candidate, to have completed the breach in the democratic party in New York, even at that time.

The adoption of the two thirds rule by the Baltimore convention, the summary execution of Mr. Van Buren, after a declaration in his favor by the majority of the states, and the substitution of Mr. Polk, a man of little *prestige*, supposed then to be of most ordinary talents, and representing chiefly the new, untried issue of immediate annexation, caused a wide-spread disaffection throughout the country, and dampened the zeal of the democratic party. On the other hand, the whigs were united and ardent, with the memory of the triumph of 1840 to strengthen their resolution and inspire their hope. What could be expected ! Every well-informed person at first calculated upon nothing else than their success. But, as the canvass advanced, sagacious men noticed a wonderful change in "the democracy," wrought by the potent influence of the name of Clay. It was the dread his apprehended election inspired that healed all their divisions, bound firmly together all the odds and ends of the party, and thus secured them a most unexpected victory.

Now, what change is there in the circumstances of parties that can stimulate higher hopes among his friends than they entertained in 1844 ! It was

a great crisis then, and the democrats were divided ; but Mr. Clay was defeated. It is a great crisis now, and the democrats are divided—why calculate on his election ?

Besides overlooking the deep, enduring opposition of the democratic party to Mr. Clay the whigs in 1844 committed this great mistake : he was not a fair representative of the principle antagonistic to the new issue forced upon the country by the Texas managers ; and therefore failed to concentrate upon himself all the elements arrayed against that issue. The source of that opposition was chiefly the anti-slavery sentiment—but the demands of this he failed to satisfy, in restricting his opposition to the *immediate* annexation of Texas, and in repelling the imputation of being actuated by anti-slavery motives.

A similar mistake his friends now make. One class of opponents of the administration demands the withdrawal of the American troops from Mexico, or the adoption of some stringent measures by congress that will compel an immediate peace. The position of Mr. Clay is not up to this mark. Another class strenuously insists that slavery be excluded from all territory which may be acquired from Mexico. This, in fact, is the great question which has divided the democratic party in New York, and produced so much discord in the party generally. Now, *no whig candidate can expect to secure any portion of this great class of voters outside of the pale of the whig party proper, unless he represents fully the principle, for the sake of which they are ready to separate from their parties.*

We said to a Wilmot proviso democrat a few days ago, "Well, will your friends stand firm? They are now proscribed, what will you do?" "We shall stick," said he ; "but what can we do? Henry Clay, whom the whigs seem resolved to take up, *does not represent the principle!*" And that is true. He does not, in any sense, to any degree, "represent the principle" of opposition to the extension of slavery. His famous resolution on that subject simply *disclaimed a desire to acquire foreign territory for the purpose of extending slavery*, and that is all.

For this we give him credit ; but this is not enough. It amounts, in reality, to nothing at all. Suppose territory acquired—*free* territory—*what then?* Not a word. Neither in his speech nor in his resolutions, does he afford even a clew to conjecture as to his policy in such a contingency. He does not, then, represent the principle for which the Wilmot proviso democrats are ready for a time to disregard party claims. Most certainly, were they compelled to vote for a whig candidate, holding no opinion, or afraid to offer one, upon this great question, of a democratic candidate, standing upon the ground that the people of a territory have the sole right to decide this question for themselves, they would choose the latter. Being under no such compulsion, many of them will refuse to vote at all, while others will give their suffrages to John P. Hale.

Not only would Mr. Clay fail to secure the

support of these voters, but his present position cuts him off from all claim upon the suffrages of what are called the "conscience whigs"—we mean that class of Wilmot proviso whigs which is represented by such papers as the Boston Whig and Roxbury Gazette, of Massachusetts, and the True Democrat, of Ohio. The "*Whig*" and "*Democrat*" have already signified, respectfully but firmly, their settled purpose not to support the nomination of Mr. Clay, should it be agreed upon by a national convention. There is no reason—not the slightest—to doubt their firmness. They will do all they say they will ; and they speak the sentiments of a large and growing class.

Then, as to the liberty party. It did not vote for Mr. Clay in 1844 ; it is sheer madness to expect that it will support him in 1848. Let that gentleman be the nominee of the whig party, and Cass, Dallas, Buchanan, Woodbury, Houston, or Polk, the candidate of the democratic, and next November will witness such a vote for Hale and King as will probably change thenceforth the entire current of politics in this country.

Another contingency should not be lost sight of.

General Taylor is in the field, and there is no ground for supposing that he will retire. His friends assert that he will run as candidate, convention or no convention. All his letters leave us to infer that they know whereof they affirm. How, in such a contingency, would the nomination of Mr. Clay avail the party? Shut out of a majority of the southern states by this formidable competitor, with an uncertain foothold in the north and west, what could be expected but overwhelming defeat?

To us it seems that the whigs are reduced to the alternative of nominating General Taylor, who is preëminently the favorite of the slaveholding interest, or of selecting as their candidate one who fully represents the principle of antagonism to slavery or slavery-extension. If they are anxious for success alone—for success in the canvass of 1848, without any reference to principle, consistency, or their future well-being as a party, they will nominate General Taylor. If they regard principle and consistency first, and are willing to put up with reasonable chances of success, they will select as their candidate a man representing the anti-slavery principle of the country.

From the N. Y. Commercial Advertiser.

WEBSTER, BINNEY, HAYNE.

WASHINGTON, Feb. 8, 1848.

HAD you been present at the delivery of the argument of Mr. Webster, before the Supreme Court, in the *Dorr* case, you would have had no reason to abate the estimate which you formed, and have recently expressed, touching the high character of that argument. A distinguished *litterateur* and lecturer has said, with much enthusiasm, that to have heard the senator's speech in reply to Hayne, of South Carolina, constituted an era in a man's life. Then my life has had one era in it,

for I happened to be present on that occasion, and must say I think the star of his oratory culminated on that day, however brilliant and well sustained its light has been to this hour. It was not dimmed in the court room, the other day, before the tribunal of justice, as indeed it never is when moving in the orbit of constitutional law, but the moral prestige which surrounded the effort of 1830 surpasses anything of recent date.

The court room was of course crowded, and many heard him for the first time on his favorite subject. A fresh generation of admirers has arisen since 1830, who heard the lawyer at the bar with much more comfort than they could have listened to the senator in the chamber, because of the better though still somewhat scanty accommodations. Silks, satins and plumes were not wanting, for the ladies at least are there accommodated almost as luxuriously as they would be in a parlor, while the gentlemen are allowed a position on their natural pedestals, or, as the English elegantly term it, "on their legs."

A crowd as usual waited on Mr. Webster to hear his argument in the Girard will case, two winters ago, but in that field he gathered no laurels. They were chiefly monopolized by his accomplished antagonist, Binney, that calm old man, who seems the very impersonation of the law, around whose brow there is a repose expressive of deep and majestic thoughts within, and of a consciousness of preparation which sets at a distance all fear of results in the case before him. As I once heard the incomparable Wirt say of a case in which he was engaged against Webster, "I ought to have gained it"—though he did not, so Binney might have justly said, of the Girard case, "I ought to have gained it," and he did gain it. But its range was not in that higher region of constitutional law where the genius of Webster, like the eagle on his strong and steadfast pinions, takes its natural flight, and maintains an elevated poise, as conscious of being in its congenial element.

Binney knew too well the strength of his position to doubt whether he could make a successful defence even against the ponderous weapons of the victor in so many forensic conflicts. And the assailant could make no practicable breach in the defences of his adversary. The contest, though not of the highest style of greatness, was a noble one, for princes were the combatants; it was exciting, for it abounded in dramatic passages; but while the counsel for the plaintiffs paid the tribute of some fine eulogies to Christianity and its ministers, he could do little for the special interests of his clients. The law was altogether the other way, and so the counsel for the defendants made it abundantly appear, not by "imagination," but by logic "all compact," so that the law and the logic were both against Mr. Webster, and I do not know that he ever said he ought to have gained the case. I am sure he must have respected the champion on the other side, who also must have felt honored by that respect, while he gracefully

enjoyed the triumph awarded by impartial justice.

And though he might seem to be contending for the cause of infidelity against pure and sublime Christianity, the final results promise to demonstrate that the great ends of Christian benevolence will, after all, be accomplished in this institution. God grant that it may be so.

In such a train of thought, one can hardly help recurring to the memory of the eloquent Hayne, who entered the lists with Webster in that celebrated debate, and acquitted himself with great honor as a speaker, despite the heterodoxy of his cause. Mr. Hayne was a man of commanding height of person, though not of the tallest; neither spare nor delicate, yet of a form inclining to the slender. His hair was of a light color, and rather lank, strongly contrasting with the then deep black of Webster's massive head, now more thinly covered with hair of a different color, showing the progress of time and the certainty of advancing age. Alas! the gallant Hayne has long since disappeared from the scene of action, and lies in the bosom of the grave, while his antagonist is still engaged in the busy cares and conflicts of public life. His mind was active, energetic, aggressive. He was planning improvements for the benefit of his native state, so far in the rear of the free states of the Union. He assumed burdens in which he was not sustained according to his expectation. Mental anxiety may have contributed to impair the energies of his physical organization. His sun went down at its meridian.

Mr. Hayne was a powerful public speaker. He was full of enthusiasm, altogether in earnest, every limb of his body and feature of his countenance sympathizing with the intense action of his mind. His seat in the senate was near that now occupied by Mr. Cass, and few speakers in that chamber ever described a greater circle, or occupied a larger surface of floor while addressing the senate. Inherently and absolutely he was a very able man, but I incline to the belief that to his conspicuous relation to the Massachusetts senator, in that debate on "Foot's resolutions," his name is indebted for some degree of its elevation. A peculiar light shines upon it from that point, always marking its special locality.

PHILADELPHIA.

A LETTER-WRITER from Philadelphia, in the Boston Courier, calls up these recollections of what has been in that city:—

Philadelphia, though abounding in wealthy men still, has fallen from the higher position she once occupied in this respect. Monuments of this fall are strikingly conspicuous. Before my window stands the stuffed hide of the thirty-five million "monster," stuffed now with Uncle Sam's revenue parchments. The victor occupies the house of the slain. It stands a perpetual monument of the fact that no "monster," however powerful, is powerful enough to successfully combat the "unterrified

democracy." More emphatic still speaks a little sign, the bigness of a man's hand, a little further down the street, by the side of an unpretending stairway leading to a small dusty room, which echoes only to the tread of a grey and wan-looking clerk. On this little sign is written, "Office of the Trustees of the Bank of the United States." Here, in this deserted room, lies the withered heart of the beast whose name was Leviathan. For all the rest, where is it?

The private history of Mr. Biddle, after misfortune laid its heavy hand upon him, is very sad. I have no time to enter upon it. He suffered insult, contumely, and, bitterer than all, neglect from those who had once basked in the sunshine of his favor, and called themselves his friends. They heartlessly mocked him in his calamities. It is beyond a doubt true that he died of a broken heart.

One other memorial of Philadelphia. Near the centre of the city, in Walnut street, are some of the most splendid residences in the city. Among them are two, conspicuous for their elegance, and facing one another. They were built a few years ago by two young gentlemen, brothers, who inherited great wealth, and moved in the gay and fashionable circles of life. They were well known, courted and caressed. One chose his partner from the stage, a woman of brilliant talents and unquestioned genius, and at the time of her marriage the idolized of thousands; a woman who, at the early age of three and twenty, had run a professional career on both sides of the Atlantic, whose astonishing brilliancy had attracted the gaze of the world. The other chose his bride from a more private circle.

Time wore on. Estrangement, separation, bitterness and the keenest sorrow, followed in the one case, to which those who have read "A Year of Consolation" cannot be strangers. And now the head of the other and most magnificent of the two dwellings is just brought home on his bier, to his young widowed wife, from Mexico, whither a life of luxury and ennui had hurried him, in pursuit of new excitements, new fields of activity for his restless spirit. Palled and satiated with the pleasures of a city life, the comforts of a luxurious home, the blandishments of society, abundant wealth, troops of friends, wife and children, a princely mansion, horses, carriages and servants, all were not sufficient in their attractions to withhold him from plunging into the pestilential vapors of Mexico, as the first step toward

—that slippery steep
Where Fame's proud temple shines afar.

From these came his death. It is humbling to the pride of our common nature, thus to have such talents and opportunities sacrificed in the profession of arms, the most vulgar of all employments deemed honorable by men. It is lamentable to see wasted those opportunities which so many struggling thousands strive in vain, in order to devote themselves to the labors of science, the arts and letters. It is sad and humiliating to see these sudden springs from seats of affluence into scenes

of murderous conflict, so repulsive to well-regulated minds. The senses are shocked by the butchery of dumb animals; how much more revolting the butchery of our fellow-men! J. S. P.

From the National Era.

TO JOHN C. CALHOUN.

Is this thy voice whose treble notes of fear
Wail in the wind? And dost thou shake to hear,
Actæon-like, the bay of thy own hounds?
Spurning the leash, and leaping o'er their bounds!
Sore baffled statesmen! when thy eager hand,
With game afoot unslipped the hungry pack,
To hunt down Freedom in her chosen land;
Hadst thou no fear, that, ere long doubling back,
These dogs of thine might snuff on slavery's
track!

Where's now the boast which even thy guarded
tongue,
Cold, calm, and proud, in the teeth o' the senate
flung,
O'er the fulfilment of thy baleful plan,
Like Satan's triumph at the fall of man?
How stood'st thou then, thy feet on Freedom plant-
ing,
And pointing to the lurid heaven afar,
Whence all could see, through the south windows
slanting,
Crimson as blood, the beams of the Lone Star!

The Fates are just; they give us but our own;
Nemesis ripens what our hands have sown.
There is an Eastern story, not unknown,
Doubtless, to thee, of one whose magic skill
Call'd demons up his water-jars to fill;
Defly and silently they did his will,
But, when the task was done, kept pouring still,
In vain with spell and charm the wizzard wrought,
Faster and faster were the buckets brought,
Higher and higher rose the flood around,
Till the fiends clapped their hands above their mas-
ter down'd!

So, Carolina, it may prove with thee,
For God still overrules man's schemes, and takes
Craftiness in its self-set snare, and makes
The wrath of man to praise Him. It may be,
That the roused spirits of democracy
May leave to freer states the same wide door
Through which thy slave-cursed Texas entered
in.

From out the blood and fire, the wrong and sin,
Of the storm'd city and the ghastly plain,
Beat by hot hail, and wet with bloody rain,
A myriad-handed Aztec host may pour,
And swarthy south with pallid north combine,
Back on thyself to turn thy dark design,
And heave the engineer of evil with his mine!
J. G. W.

NOTE.—No one places a higher estimate upon the intellectual power and exemplary private character of the great southern senator than the author of the above lines, the severity of which can only be justified by the actual facts in the case. His late speech on the Mexican war, which is here contrasted with his boast in the senate, scarcely a year ago, of his successful agency in the annexation of Texas, as a measure calculated to strengthen the institution of slavery, betrays to the careful observer a fear that the advantages thus accruing to that institution are in danger of being lost by the annexation of Mexico. He evidently feels that he has kindled a fire which he cannot quench. Hence his appeal to the delegates of the insulted and oppressed north, to save him from the consequences of his own schemes. J. G. W.

From the New Monthly Magazine.

LA CAMICIA RAPITA.

I.

O mercy, God! what masking stuff is here?
What's this? A sleeve?

Taming of the Shrew.

"It is a very extraordinary thing, Susan, that the laundress never will send home my things right. Every week there is sure to be some mistake."

"I'm sure I'm very sorry, mem! I always desires her to be so particular."

"She seems to pay no attention then to what you say to her. Last week she lost one of my best cambric handkerchiefs; the week before she could not account for that pretty *fichu*, and now there's another article missing."

"Indeed, mem! Why, I counted the linen over when it came home, and it quite agreed with the bill. I'm sure the number was all right."

"The number—yes—perhaps so;—but what do you call *this*? This thing certainly can't be mine. It looks as if it belonged to a man!"

"Good gracious me, mem, and so it does! Well, I never! As sure as I live, it's a gentleman's—what's-his-name. How could it have got there!"

"Through the woman's carelessness, of course. Look at it, Susan, and see if there's any name or mark upon it that you may discover whose it is."

"Oh dear me, mem, I should not like to touch it. I knows nothing about gentlemen's wearing apparel."

"You know my things from other people's, I hope. Stuff and nonsense, do as I tell you. I dare say it belongs to the person's husband."

"Oh no, mem, that it can't. They're very poor people, mem. He could n't afford to wear anything half so good as this. Look at the fineness of the lining, mem, and then the frill is real Bristles lace!"

"Indeed!—it's marked, I suppose."

"Oh, yes, mem, here in the corner. Gracious goodness, if it ain't a crownnet most beautifully worked, and the letter N under it. To think of that!"

"A coronet indeed! and the letter N! Do you know who she washes for?"

"Oh dear me, no, mem—I never asked such a question."

"Well, make a point of asking now. Take the thing away, and be sure you desire Mrs. Jones—if that's her name—to take it back directly, and send home my proper garment. It's perfectly ridiculous."

The above colloquy took place one morning in the dressing-room of Mrs. Trevelyan, a very pretty young widow who occupied the first and second floors of 53, Harley-street. In early life—when barely eighteen—she had made a *mariage de convenance*, or rather it had been made for her, for she had no voice in the matter, an uncle, upon whom she depended, being the sole arbiter of her

fate. The gentleman who espoused her, in spite of his sixty years and disparities not less remarkable than age, looked forward to a long life of happiness with the beautiful Ethelinde Maltravers, and such was the charm of her disposition, and the natural sweetness of her temper, that he might not perhaps have been deceived, but for one of those accidents to which flesh is unfortunately heir to, and which grow thicker round our path as it draws nearer to the goal: the fact is, he died one day of influenza, after a brief union of little more than a year.

That he was sincerely attached to Ethelinde, the manner in which he disposed of his property made sufficiently clear. He left her sole executrix, and the succession consisted of a fine landed estate in Devonshire, and the sum of twenty thousand pounds in the Three Per Cents. But Mrs. Trevelyan did not come into the property without opposition; the will was disputed by the nearest male relative, and a law-suit was the consequence. This was the cause of her being in a temporary residence in London at the time when the preceding conversation occurred, for had she consulted her own inclination her footsteps would never have wandered in the month of June from her beautiful groves and gardens at Torcombe, in spite of the attractions of the London season. In London, however, she was; and much of her time was taken up in interviews with lawyers and men of business, so that except a late drive in the park, or an occasional party to dinner, or at the opera, Mrs. Trevelyan saw little of the gay life in which she was so well qualified, both by nature and accomplishments, to shine. Of the claimant to her late husband's estates, she knew nothing more than that he was a young man of rank who, like many of his class, was in want of money to meet expenses and relieve incumbrances, and she believed he was abroad, though probably hastening homeward as the period drew near for bringing the law-suit, in which he had embarked by the advice of friends, to a close. Though naturally unwilling to forego all the advantages of her position, which she had gained by her own exemplary conduct, and conscious at the same time that her retention of Mr. Trevelyan's bequest was no ruinous deprivation of the rights of the next heir, Ethelinde would willingly have agreed to an amicable compromise, by the advance of any reasonable sum of money to meet the alleged necessities of the young nobleman her antagonist. But the affair was so entirely in the hands of the lawyers that no opportunity offered of proposing terms to the principal, and, moreover, Mrs. Trevelyan was so uncertain of his "whereabouts" that she could find no direct means of communicating with him.

Matters were, therefore, left to take their course.

II.

Why, what, o' devil's name, tailor, call'st thou this?

Taming of the Shrew.

Half-past seven was striking by the clock of St. James' Church, as Lord Norham dismounted

at the foot of the steps leading into the Albany in Piccadilly. After glancing admiringly at the beautiful thorough-bred bay which he had ridden, and examining, with some care, one of the animal's shoulders, which seemed less glossy than the rest of his coat, Lord Norham patted the "poor fellow" on the neck, and with a word of instruction consigned him to his groom, and went in to dress for dinner.

"This," he said, as he walked towards letter D., where he was housed in a friend's chambers; "This is one of the great discomforts of civilized life! To be compelled to put on a formal dress for the hours which offer the greatest enjoyment; to case one's self up in a starched cravat and stiff coat when inclination would lead one rather to throw both aside. These are amongst the penalties one must pay for living in the society of great cities. Oh, the unspeakable comfort of wearing the loose, easy robes of the East, or the *negligé* of the shores of the Mediterranean! Oh, the delicious nights on the roof-tops of Damascus, on the deck of my own Guluare, or in the *patios* of Grenada! What a contrast to the fettered existence to which I have been compelled to return! But, unluckily, one can obtain nothing in this world without money, and money I certainly want. I wish I could have lingered through another winter in Malta, in Greece, in Sicily, in dearest Naples—anywhere rather than have returned home, though it is the season! But those friends, those friends—who will take greater care of your interests than you do yourself, and who make you follow the customs of the world, accusing you of apathy, disregard of self-respect, and want of consideration for others, if you fail to adopt their views or act up to their wishes! But for them I should never have entered into this troublesome law-suit. What did it signify to me to whom my old cousin, Trevelyan, left his money? He had a right to do as he liked with it, for he made the greater part of it in India by the sweat of his brow. And forsooth, because he succeeded to a landless house—all his patrimony—and made it, by his wealth, the centre of a large estate, the lawyers must interpose and say that the nearest of kin has a claim. Not that I should have had the slightest objection to his property if he had left it to me in his will; on the contrary, for it would have prevented me from doing what, most likely, I shall be obliged one day to do, marry an heiress for the sake of her money; but I hate the bore of a law-suit, ripping up all one's private concerns, and laying them open to the staring public, besides a world of misconception as to conduct and motives. I know nothing of Mrs. Trevelyan, but from what I have heard, she always conducted herself very well, and, to say the least of it, she deserved some compensation for the sacrifice she made in marrying a man so old and yellow as my cousin. They say, too, she is very pretty; it's the money makes people say that, I'll be bound. I'd lay a heavy wager she is not half so lovely as that fascinating creature who was so frightened to-day in the Park. I wonder who she

can be! The carriage had only a simple cipher on the panels, and the servants were in the plainest possible livery, but she is certainly somebody! So much beauty and such dignity of manner cannot belong to a *parvenue*. It was lucky I rode up as I did, or that stupid coachman would decidedly have upset the carriage into the Serpentine. I was afraid Conrad had hurt his shoulder, as he rushed past the tree into the water, but we got off with a few plunges and splashes. She looked pale certainly, but when she smiled her thanks her color came back, and even my own loved Damascus roses are not brighter than the glow on her cheek."

Lord Norham had by this time reached his apartments, where his attentive valet-de-chambre, an Italian, who had travelled with him for three years, was in readiness for his toilet. The young nobleman, in a somewhat abstracted mood, proceeded with his task, but his abstraction was not so great as to prevent him from making a sudden exclamation when he had got about half-way through the operation.

"Why, what the devil's this, Antonio!" he cried out, abruptly: "I'm not going to a masquerade!"

"Milor!" ejaculated the astonished valet.

"Yes, you may well stare; see here! Why, it's something you must have picked up in the Levant. What a ridiculous shape! It looks as if it was made for a woman!" And Lord Norham, as he spoke, displayed a very delicately-wrought article of raiment, of the finest linen, with a frill running round the top of the most transparent cambric edged with the richest Valenciennes lace. It was, moreover, "curiously cut," so as to give a very graceful contour to the upper part of the garment, and a little way down in the centre appeared two small crimson letters.

"Corpo di bacco!" exclaimed the Italian, who was a married man, though he led a bachelor's life; "è una camicia da donna!"

"A camicia is it! How the deuce did it get here? You did n't open Mr. Percival's wardrobe by mistake; that, perhaps, would have accounted for it."

"No, milor! I could not do such ting, for de Signore Percival take his keys along vid him ven he lend your lorship his shamber."

"How came it here then?"

"Upon my vord, milor, I do not know. Perhaps de lavandaja shall have make some mistake, and send you home some lady's dress instead of your own."

"Well, you must see about it. Meantime give me something that I can wear. Curious, to send me such a thing, and you not to take any notice of it! It's very fine looking stuff!"

"Oh, yes, milor, I nevere see noting finer, and my wife, she have a great deal to do in dis vay at Napoli."

"After all, the shape is a very pretty one. I wonder who the owner is! I thought I saw some initials; what are they?"

"Eccole, due lettere!—two letters, E. T.—and some figures, a 2 and a 4."

"E. T. 24!" mused Lord Norham; "I wonder who she is! It would be worth while trying to find out. I say, Antonio," he continued, as he finished the bow of his cravat, for in spite of his objections to modern costume Lord Norham piqued himself on the skill of his tie, an accomplishment really acquired at Oxford—"make a point of asking the laundress what the lady's name is, and, do you hear, don't send the camicia back till I tell you."

"I shall recollect, milor," returned Antonio, with a smile. "Your lordship's cab is at de door." And in a few seconds Lord Norham was whirling through the streets on his way to Grosvenor Square, the images of pretty women and pretty garments contending for mastery over the claims of *salmis* and *suprêmes*.

III.

Look to behold this night,
Earth-treading stars, that make the dark heaven light.
Romeo and Juliet.

THE Duke of Derbyshire gave a concert that night at Derbyshire House, at which all London was present. Ethelinde was amongst the guests, chaperoned by her aunt, the Honorable Mrs. Rushworth. It was the first great party she had been to since she came to town, for she had refused to go out generally, *pendente lite*, but Derbyshire House is an exception to all rules; no one refuses to go there. It is not merely on account of the fashion which the duke's parties confer, the positive *agrémens* which they offer, nor the kind and courteous welcome given by the noble host to his guests, though these are nowhere to be met with in so great a degree, but because there is a charm about them, the secret of which has never yet been discovered, which so completely distinguishes them from all others. At Derbyshire House the light has no glare, the music no noise, the flowers breathe perfume only; every one smiles naturally; there is no *gêne*, no crowd; all wear an aspect of happiness; and as far as society alone can make people happy, they are so there.

In spite of the uncertainty of her position, Ethelinde also felt happy. She was young and beautiful, and the buoyancy of youthful spirits drove back those phantoms of the future which are ever drawing near to deform the prospect with their gloomy shadows. But hers, though she knew it not then, was an incomplete happiness, for she had not yet known the pain of loving, and until that pain be felt, happiness is merely an image reflected in a mirror. Was she destined to remain long in this state of ignorance? A few minutes decided the question.

After listening with rapture to strains of the most exquisite music, Mrs. Rushworth and Ethelinde left the concert-room to wander through the range of beautiful saloons which extend on either hand, admiring at every step some charming picture, some perfect piece of sculpture, or some work of art as rich as it was rare. They had nearly

completed the tour when their progress was slightly obstructed by the tall figure of a young man who was leaning thoughtfully in a doorway. The rustling sound of their dresses, however, recalled his attention, and he drew on one side to allow them to pass. In doing so he turned towards them, and, to Ethelinde's surprise, she recognized the gentleman who had come to her assistance that afternoon in the park, and he beheld the lady of whom, in spite of himself, he had since then been constantly thinking.

Mrs. Trevelyan could do no less than bow in recognition of the service he had performed, and it was at least a necessity on the part of Lord Norham to speak.

"I hope," he said, "you have not suffered from the flurry—I suppose I must not say fear—which your unruly horses excited to-day."

"Oh, you are right to think I was afraid," replied Ethelinde, earnestly, for really the situation seemed dangerous.

"I dread, then," Lord Norham, smilingly returned, "lest my ignorance or awkwardness should have contributed to your alarm."

"On the contrary, I feel perfectly certain that, if you had not seized the horses' heads the carriage would have been overturned. It was very kind to venture so much for a mere stranger."

"That was a common impulse, though accident summoned me to do what I would most have preferred. But, after all, in society—in the world—there are no strangers. It was decreed by fate that I should meet you here to-night; the same thing would have happened had we both been in Rome or in Cairo."

"Are you so much of a predestinarian?" laughingly asked Ethelinde. "Does nothing happen but what is preordained?"

"Nothing—of consequence."

"But what can be more inconsequential than this casual encounter?"

"Perhaps only that of this afternoon."

"Nay, there you are wrong. I should be very ungrateful if I ranked them equally."

"Forgive me, I ought not to have implied any doubt; but do not fall into the error of over-estimating the very trifling service I was so fortunate as to render you."

"Your creed of fatalism does not, I hope, exclude gratitude from the list of voluntary efforts!"

"It would be presumptuous to assign it so much scope. Fate only prepares the way; it disposes of those accidents which are material;—the mind accomplishes the rest."

"But is not the mind, according to your theory predisposed?"

"Yes—to the reception of a particular theme but the same cause often produces very opposite effects. It is like sowing an unknown seed. The earth fructifies every germ alike, whether the plant which is to spring from it be sweet or bitter, a remedy or a poison."

"You have examined these things seriously. Where have you studied?"

"In the East; not always in solitude, but often far from the haunts of men."

"You have travelled much, then?"

"I have seen many places and some varieties of mankind—but not enough for the purpose which originally impelled me to travel."

"And you have returned with your objects unaccomplished? What caused you to relinquish their pursuit?"

"I believe," said Lord Norham, looking intently at Mrs. Trevelyan, "yes, I am sure, it was fate!"

The Honorable Mrs. Rushworth must have been a lady endowed with great good nature, or a very rare patience, to have allowed this colloquy to endure without offering to interpose a word; but there are limits even to feminine forbearance, and now she spoke.

"I see," she said, "you are arguing in a circle;—besides, the duke is looking round him, a sign that the music is about to recommence. Come, Ethelinde, let us go to the concert-room."

Lord Norham bowed to Mrs. Trevelyan's graceful inclination as she passed on;—I am not sure, even, that their eyes did not meet; but he did not attempt to follow—at least, not then.

"Who is your new acquaintance, Ethelinde?" inquired Mrs. Rushworth; "he can only have just returned from abroad, for I don't think I ever met him before."

"I am as ignorant as you, aunt, who my deliverer is, and you know also as much of my adventure."

"He is a very distinguished looking person at all events," said Mrs. Rushworth.

Ethelinde thought he was even something more, but she said nothing.

When the carriages were called that night there was at least one attentive listener in the hall with many pillars; and it was not without a thrill of pleasure, as he handed Mrs. Rushworth and her fair companion to their brougham, that Lord Norham heard the footman give the word,

"Fifty-three, Harley street."

IV.

Say, what strange motive, goddess! could compel
A well-bred lord to rob a gentle belle?

POPE.

WHEN Lord Norham woke on the morning after the concert, the first word which he uttered was "Ethelinde," and a long sigh followed the exclamation.

Antonio, who was in the room, busied about his usual avocations, hearing his master stir, presumed that he spoke to him, and therefore addressed him:

"Milor is awake!" He received no answer, but continued, "I have got some news about dat camicia. I have discover to whom it belong—a very nice lady! very beautiful, very rich!"

"Is that you, Antonio! What are you talking about? I wish you would hold your tongue!"

"Oh, very well, milor. I only tought your lordship would be glad to know about de camicia."

"Hang the camicia," said Lord Norham, rather petulantly; "what can it signify to me whose it is?"

"I know vere de lady live, milor."

"And I care nothing about it. If he could tell me what I *do* want to know," he muttered, "it would be something to the purpose."

"La lavandaja—de vashingvoman—have been here late last night, milor, and she tell me de owner of de chemise live at Nombare Fifty-tree, Harlay Strit."

"What do you say?" cried Lord Norham, starting up in his bed with a degree of energy that astonished even the trained Italian, "where!—what!"

Antonio repeated the intimation.

"Make haste," said Lord Norham, "give me my dressing-gown. Stay, you were speaking of the camicia; you have not sent it back, I hope."

"Certamente no, milor. Your lorship say I was to keep him till funder ordares."

"True—and you have it here!"

"Yas, milor."

"Bring it me directly."

The order was promptly obeyed; and to any one but a native of a southern clime, accustomed to vehement demonstrations, the eagerness with which Lord Norham seized the garment, and the thousand kisses he imprinted on the unconscious linen, would have been matter for never-ending astonishment. An English valet would have thought of his own safety, or—if he had been awake to it—of a commission of lunacy. Antonio merely waited to see how long the passion would last—it was not quickly over.

"Ethelinde! Ethelinde!" exclaimed Lord Norham; "yes, here is the dear initial, E. But what does the other letter mean? T!—T! I heard the name of Rushworth—'The Honorable Mrs. Rushworth'—that I suppose was her mother. Well, it may be so still: her daughter by a first marriage—no doubt of it. What grace! what beauty! I never thought that English women could be so supremely lovely! I must find out all about her. I don't think she is engaged—she did not look as if another occupied her thoughts. Well, this law-suit has led to something that the lawyers who devised it never dreamt of. It may take its own course for what I care, provided I can once more see my own, my dearest Ethelinde!"

But the law is more prosaic than even lovers imagine, and Lord Norham was scarcely dressed before he received a letter from Essex street, informing him it was absolutely essential to his interests that he should attend that morning, at eleven o'clock, to meet that eminent counsel, Mr. Scatterdust, to discuss finally the question of the succession to the estate of the late Mr. Trevelyan. The letter was signed "Gabriel Quirk," and prayed his immediate attention.

"What an infernal bore!" he exclaimed, as he threw down the missive; "I suppose I *must* attend—indeed, I may as well go there as anywhere else at such an early hour. Of course she is not

up yet. Antonio, desire Stevens to be here with the cab at a quarter to eleven, and let me have some breakfast."

We leave Lord Norham to discuss his meal with such appetite as love has left him, and return to Harley street.

It was twelve o'clock, and Ethelinde had not yet left her boudoir, though she had been up some hours, and the restlessness which haunted her couch pursued her when she quitted it. She had tried to read, but could not fix her attention on the page, and now she sat at an open secretaire, with paper before her and a pen in her hand, but her thoughts refused to flow, or wandered from the subject of her intended correspondence. Absorbed in a reverie, which, to judge by the sweet serenity of her features, appeared a happy one, she had suffered some one to tap twice at her door unregarded, but the third knock roused her attention, and she bade the intruder come in.

It was Susan, and her countenance bore the signs of recent excitement, for her color was high, and her eyes sparkled.

"What is the matter, Susan?" asked Mrs. Trevelyan, calmly.

"I begs your parding, mem, but I never heard tell of anything like it. To go for to keep a harticle of dress like that, and then refuse for to restore it when perlutely hasked, is one of them things as I can't bring myself to understand. He positively objects to send it back, mem!"

"To send *what* back, Susan? I really don't know what you mean."

"Why, mem, it's all about your apparel, mem. I scolded the laundress finely yesterday, and she promised to do her best to find it. She knew at once who the other thing, mem, belonged to—a young nobleman as is living in the Halbany—and in the evening she went there and saw my lord's wally-de-sham, and said as how she supposed there was some mistake, and that the linning had got mixed. At first he said, in his gibberish, for Mrs. Jones says he is one of them mad forriners, that he did n't know nothink at all about it, but Mrs. Jones says he was a larfin when he spoke, which convinced her that he know'd where to set his ands on it, and she begged he'd be so good as to look, for that the lady was in want of the harticle."

"That was very ridiculous," said Mrs. Trevelyan, blushing as she spoke. "I wish you would finish the stupid story. I am sorry I ever made any inquiry on the subject."

"Well, mem, Mrs. Jones was only a-doing of what she thought her duty, for I'd said to her, 'Mrs. Jones,' says I, 'don't let me see your face again without that there!' and so she went again to the Halbany this morning, and taxed my lord's wally with a-having of it; for she'd been round to every one as she washes for, and know'd it could n't be nowhere's else; and what do you think, mem, was the hanser as the himperdent feller give her!"

"Dear me! how can I possibly tell! To think

of having one's thoughts disturbed by such nonsense as this!"

"He said, mem—it's as true as I stand here—my lord, mem—had locked it up in his own buro, and that he was ordered to pay for it, for that it would n't be given back to nobody but the hoaner!"

"I never heard of anything so absurd! And did she really come away without it?"

"She was forced to, mem. But she would n't give up the other thing, no how, mem. The wally larfed and joked in his forrineering manner, and said, as how it was of no use to you, mem, and that she'd much better give it up, for that he wanted to wear it his-self, as he was a-going to the hopperer this hevening; but Mrs. Jones could n't be persuaded to, and so the trumpery harticle is come back again, mem!"

"I must say, I think it very singular conduct," observed Mrs. Trevelyan, compelled by the strangeness of the affair to take some notice of it. "Have you any idea of who this young nobleman is? not that it is of any use knowing; indeed, it would be better not to be acquainted with his name, except to avoid him if one happened to meet him."

"Oh, yes, mem—Mrs. Jones knows; she did mention it to me, but I never pays no attention to gentlemen's names; I can ask her again, mem, for she is down stairs now."

Susan departed on her errand without any opposition from her mistress, and presently returned with the required information.

"Gracious, mem! Would you believe it? It's as true as I live, but the gentleman, mem, is young Lord Norham, poor Mr. Trevelyan's cousin."

"Lord Norham!" said Mrs. Trevelyan, in astonishment. "Impossible, Susan; Lord Norham is not in England!"

"Oh, yes, mem—he is; he came home about ten days ago: the wally said it was very sudding, for they was in Italy, Rome, and Naples only, it might be, about a month since."

"That accounts then," said Mrs. Trevelyan, to herself, "for Mr. Quillet's desire that I should remain in town. Lord Norham carries on a strange sort of warfare; he not only seeks to deprive me of my estate, but lays violent hands on my personal effects. What can he mean by it? Order the carriage, Susan; as soon as I am dressed I shall go to Mrs. Rushworth's."

v.

My only love sprung from my only hate.

Romeo and Juliet.

Lord Norham's groom had dismounted, and was crossing the pavement to knock at No. 53, Harley-street, when a pretty brougham (a brougham is pretty sometimes, despite the association) drove rapidly up to the door. Lord Norham recognized not only the mazarine blue carriage and the spirited cream-colored horses that drew it, but caught a glimpse of their fair owner; and recalling his servant, leapt lightly from his saddle, and approached the carriage-window.

"I don't know why I find myself here without invitation," he said; "but I am fairly caught in the act. I wished to pay my respects to—to," he hesitated for a moment, and then, with an effort, brought out, "Mrs. Rushworth."

Ethelinde saw his artifice, and smiled.

"My aunt," she replied, "does not live here. I have just come from her house in Grosvenor-street."

Lord Norham appeared to take no notice of the explanation.

"Allow me," he said, "to assist you from your carriage, and," he added, in a subdued, but earnest tone, "to explain the motive of my appearance."

Ethelinde bowed gravely, accepted his proffered hand, and they entered the house together. When they reached the drawing-room she took a chair near one of the windows, and motioned to Lord Norham to sit down also, for she felt too much agitated to speak.

He did not, however, accept the invitation, but stood for a few moments, irresolute, as if uncertain how to commence a conversation which he had sought in so unusual a manner. At length he spoke.

"I am sure," he began—"that is—I hope—you will forgive the step I have taken, in presenting myself before you without an introduction; but the truth is, I expected to have been able to plead as my apology, a friendship which I formed in the East with a relation of Mrs. Rushworth. Had I known to whom I was speaking last night, before the party broke up, I should not have been placed in this awkward predicament."

"You have characterized it rightly," returned Ethelinde, with some degree of coldness; "the situation is, at least, peculiar."

"I am afraid," said Lord Norham, advancing a step nearer—"I am afraid I have offended you, and Heaven knows that is the last object of my thoughts; but, what shall I say—I could not resist the temptation of making an inquiry after you this morning, particularly when I was led to believe that you were the sister of the man who saved my life as I was travelling last year between Beyrouth and Damascus."

"Indeed!" exclaimed Ethelinde; "were you the Englishman whose escort fled when attacked by a party of Bedouins in the Lebanon, and whom my cousin Charles was so fortunate as to rescue? He wrote to us about the adventure, but, with the carelessness that marks everything he does, never told us *who* he had assisted, contenting himself with saying, that it was a feature of life in the desert which had led to very agreeable consequences."

"It was no other than myself to whose aid he came so opportunely, or I might not have lived to tell the story; though, after all," and this was said with an accent of bitterness—"life is, perhaps, a questionable blessing."

"Surely not," observed Ethelinde, "if it enables us to render any—the slightest service to our fellow-creatures."

"But my life, I fear," said Lord Norham, "is destined to be a torment to others, even against my will. At this very moment, while I am speaking to you, I am in the act—passively, it is true—of inflicting a most serious injury upon a person whom I have never seen, and whom, moreover, I have every reason to respect."

"But you are not such a fatalist as to believe that you have not the power of preventing yourself from doing wrong!"

"Certainly not, in my own person, but there are circumstances when one is compelled to allow others to act for one."

"I can conceive no combination of events so compulsory as to make one act against one's own conscience, either in person or by deputy—that is to say, if you entertain feelings such as you describe."

Lord Norham gazed intently on the animated speaker, and her words fell on his ear with the conviction of truth.

"You are right," he said, "and whatever it costs me, I will neither be a wrong-doer myself nor suffer wrong to be done in my name. It will, at any rate, console me for the brevity of this interview, which I fear will be my first and last; for," he continued, with a melancholy accent, "I must once more be a wanderer."

"You will not leave—that is—quit England, without allowing my aunt to make the acquaintance of her son's friend, without"—she hesitated—"without giving me the satisfaction of knowing who it was that rendered me an essential service, to whom I am indebted, perhaps, for my life."

"And have I been so utterly forgetful of all the laws of courtesy as to continue anonymous! Heavens! yes. I gave my card to my groom to deliver at the door, and forgot that you could not have received it. My name is Lord Norham."

Had a mine been suddenly sprung in the drawing-room, Ethelinde could not have been more astonished than by this announcement. She started to her feet, and became pale and red by turns, as the various thoughts which that name excited awoke rapidly within her. She beheld at the same moment the enemy of her social position, whose success would involve her in comparative ruin, the bizarre young man who had acted so ridiculously about the disputed garment, and—she could not disguise it from herself—she saw before her one who evidently regarded her with no common interest. That she was perfectly unknown to him, seemed quite certain, for he had mistaken her for Mrs. Rushworth's daughter, but then what could have made him act so absurdly in other respects? He surely did not mean to speak to her on the subject! The bare idea made her feel as if she were about to sink into the earth; she would rather have lost a thousand law-suits than have run the risk of this unhappy restitution. Amazement, fear, mistrust—so many contending emotions were imprinted on her countenance that Lord Norham gazed on her in mute wonder. Ethelinde felt the embarrassment

of their mutual position, and made an effort to recover herself.

"I was so unprepared," she said, "so surprised to hear your lordship's name, that—that—I beg you will excuse me"—and she leant against her chair for support.

"Gracious Heaven!" he exclaimed, "what is the matter? What have I unfortunately said to cause this alarm?" and he took her hand as she spoke.

"You will understand all," replied Ethelinde, disengaging herself, "when I tell you that I—am—the widow of the late Mr. Trevelyan!"

It was Lord Norham's turn to be astonished, but his astonishment soon gave way to rapture. Ethelinde had sunk into a chair and covered her face with her hands. He came closer to her.

"Mrs. Trevelyan," he said, "dear Mrs. Trevelyan, how gladly would I have spared you the pain of this moment, how willingly have foregone it to remove the happiness which it has given me. Hear me, Mrs. Trevelyan—Ethelinde"—she started at hearing him thus name her—"dearest Ethelinde!" again he took her hand, "why should we be foes? Before I knew who you were I had

ceased to be so—your generosity had conquered my selfishness—be generous again, and pardon one who never meant to offend, who loves you, Ethelinde, dearer than life itself."

Is it not Camöens who sings—

Let no one say that there is need

Of time for love to grow!

And do not all who have ever truly loved admit that a single moment suffices to color every future hour of existence? To such—and doubtless they form the majority of my readers—I need not minutely tell how the law-suit ended to the discomfiture of Messrs. Quillet and Quirk, how Mrs. Trevelyan became Lady Norham, and how the "Camicia rapita" was disposed of. To the best of my belief the last-named subject was never adverted to, though Lord Norham smiled very mysteriously the first time he saw the preparations making for his bride's *trousseau*.

As for Susan, she never ceased wondering at "the way things is brought about."

"To think," she used to say, lifting up her hands and eyes, "to think of my lord and my lady being interdooced to each other by means of a *scrimmiger* as the forrin wally calls it!"

THE LONELY HOME.

THERE'S none to say "good night" to me—

No friend my little fire to share;
The old hoarse clock ticks drearily,
And makes the silence worse to bear.
Gone! ALL are gone! the fondest, best,
And loveliest that I call my own;
After brief suffering they're at rest;
They—THEY lived not to wail alone!

Alone, alone—morn, noon, and eve,
I see the old chairs keep their place;
I watch the dirty spider weave
Where once there shone a household grace.
The brightness of my home is dull—
The busy faces all are gone;
I gaze—and oh! my heart is full—
My aching heart that breaks alone.

I ope the Bible, gray with age—
The same my hapless grandsire read,
But tears stain fast and deep that page
Which keep their names—my loved—my dead
The wandering stranger by my door—
The passing tread—the distant tone—
All human sounds but deepen more
The feeling I am lone—alone!

My cot with mantling ivy green,
Its pleasant porch, its sanded floor—
Ah! time's dread touch hath changed the scene,
What was, alas! is now no more!
The key hath rusted in the lock,
So long since I the threshold crossed:
Why should I see the sun but mock
The blessed light, my home hath lost!

Oh! would my last, low bed were made;
But death forsakes the lone and old!
Seeks the blythe cheek of youth to fade,
To crush the gay, the strong, the bold;
Yet sometimes through the long dull night,
When hours find supernatural tone,
I hear a promise of delight,
Thou God! Thou leavest me not alone.

The wintry rain fell fast and deep,
As slow a coffin passed the road,
No mourner there was seen to weep—
No follower to that last abode!
Yet there a broken heart found peace—
The peace that but in death it knew;
Alas! that human loves increase
Our human woes and miseries too!

NEW BOOKS AND REPRINTS.

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WASHINGTON, 27 DEC., 1845.

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J. Q. ADAMS.